DEPARTMENT OF CITY PLANNING 100 LARKIN STREET • SAN FRANCISCO, CALIFORNIA 94102

San Francisco City Planning Commission

Environmental Impact Report

CHILDREN'S HOSPITAL OF SAN FRANCISCO

Draft

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Written comments should be sent to the Environmental Review Officer, 45 Hyde St., San Francisco, CA 94102

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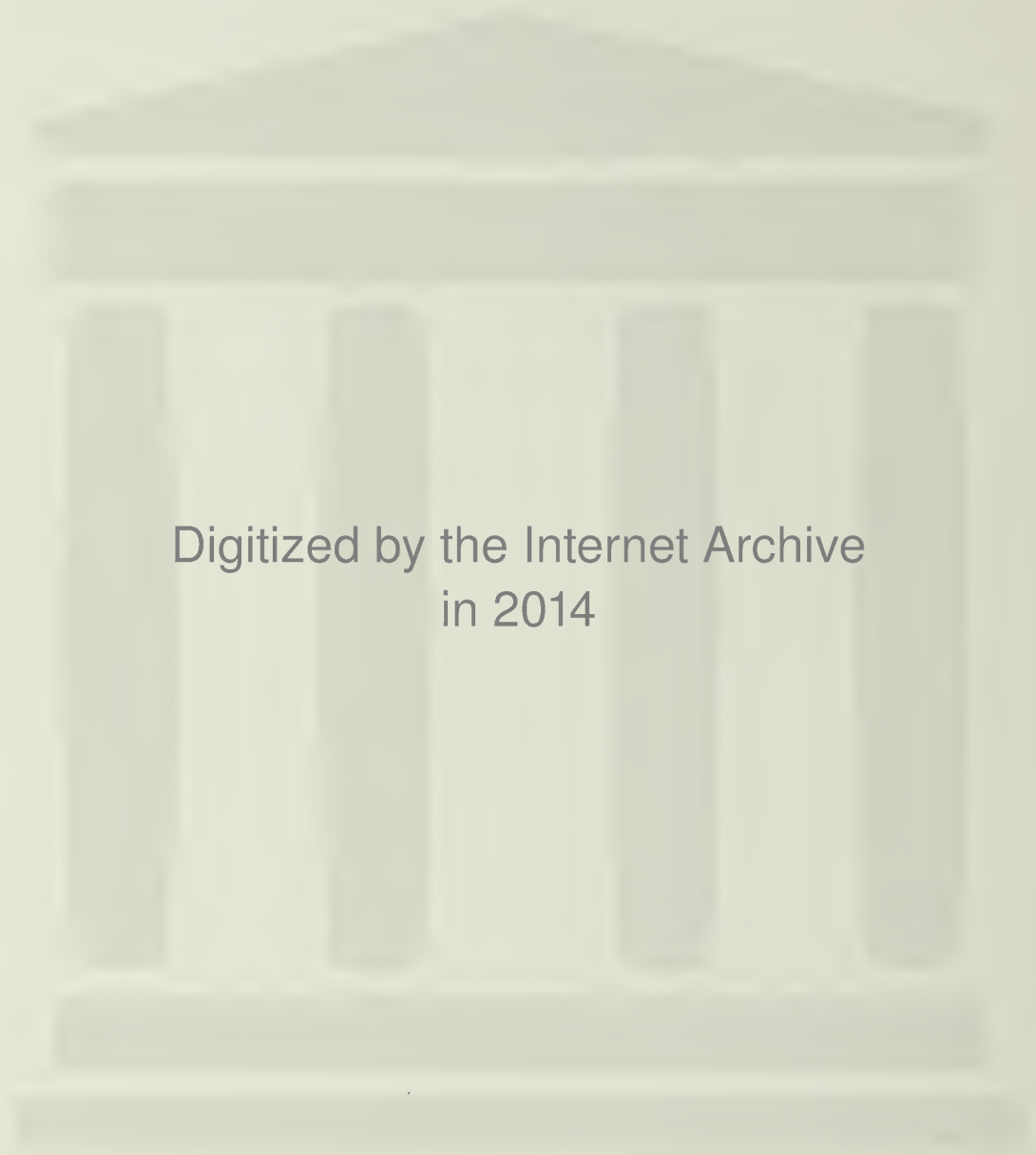
AERIAL VIEW OF CHILDEN'S HOSPITAL FROM JORDAN PARK LOOKING NORTH TOWARD PRESIDIO HEIGHTS AND THE PRESIDIO.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I. SUMMARY

A. PROJECT DESCRIPTION

The proposed project consists of a four-phase construction program to replace or remodel structures at the Children's Hospital of San Francisco in the block bounded by California, Cherry, Sacramento, and Maple Sts. The present Hospital buildings involved do not comply with existing or proposed seismic safety standards, or are technologically, functionally, or physically obsolescent. The project would result in a decrease of 59 beds and the equivalent of approximately 40 full-time jobs; an increase in off-street parking capacity of 45 spaces; and an increase in overall floor area of about 11,000 sq. ft. The project would be implemented over a four-year period in order to enable the Hospital to remain operational during construction.

The project would include remodeling some floors of Buildings A and D (see Figure 2, p. 10, and Figure 3, p. 16); removing the upper floors of Building B and remodeling the basement and ground floors to comply with seismic safety standards; and demolishing Building C at California and Cherry Sts. and the frame Buildings K on Sacramento St.

Principal new construction would include Building H at Cherry and California Sts., Building J at levels 1, 2, 3 and 4 above the base of Building B, and a two-level parking structure under a street level plaza at the corner of Sacramento and Cherry Sts. (see Figure 3, p. 16).

I. SUMMARY

The project is intended to bring the Hospital into conformity with current seismic safety standards and with State Department of Health licensing requirements (Title 22, Division 5, California Administrative Code). Project construction would begin in 1979 and be completed in 1983. The project is estimated to cost approximately $24 million (in 1983 dollars).

B. ENVIRONMENTAL EFFECTS

The project site is located between the Presidio Heights and Jordan Park residential neighborhoods on the north and south, and Laurel Heights to the east. Area residents have organized into groups which actively participate in the resolution of community and governmental issues affecting their neighborhoods. Area merchants are organized into the Sacramento Street and Laurel Village Merchants Associations. In early 1978, the Hospital invited the presidents of the neighborhood associations, or their delegates, to participate in a Hospital-Neighborhood Steering Committee. The committee was formed of representatives of the groups and the Hospital to participate in planning of the modifications. Participating groups include the Jordan Park and Laurel Heights Improvement Associations, the Sacramento-Arguello and Clay-Cherry Neighborhood Associations, Presidio Heights Association of Neighborhoods, Planning Association for the Richmond, Sacramento Street Association and Laurel Village Merchants Association. Their representatives have met regularly with members of the Children's Hospital administrative staff, its Board of Directors and Board of Trustees, and with representatives of the Department of City Planning and the Traffic Engineering Division of the Bureau of Engineering to review the Hospital replacement program, as well as a transit action plan and preferential parking program. The concerns of these neighborhood groups, especially regarding alleviation of on-street parking congestion, are reflected in project mitigation measures which have been adopted or are under consideration by the Hospital (see Section V, page 97).

The project area has been identified by the Department of City Planning as one with no known potential for archaeological finds. No structures on the site have been noted in the San Francisco Architectural Inventory or list of designated landmarks.

I. SUMMARY

The proposed demolition and renovation of some Hospital facilities and the construction of new facilities would change the design character of Children's Hospital. Building masses would be reduced on Sacramento St. near Cherry St. and in the mid-block portion of the California St. frontage. Along Cherry St., however, building mass would be increased by new project construction. Planned exterior colors and textures of the new construction are intended to unify the overall design of the Hospital by being compatible with existing colors and tones. The bay window facade is intended to complement local residential architecture.

Publicly accessible landscaped areas on the property would be provided by the construction of an entrance courtyard in place of a portion of the existing Building C, and by the building of a plaza at the Sacramento St. level above the proposed underground parking structure which would replace the existing frame buildings at the northwest corner of the site. Users of the proposed plaza might occasionally experience discomfort due to the exposure to prevailing winds.

In general, shadows currently cast onto Sacramento St. immediately east of its intersection with Cherry St. would be reduced or eliminated by demolition of the existing three- and four-story woodframe structures and their replacement by a proposed parking and plaza facility. The plaza would be at least partly shaded during morning hours throughout the year, and during late morning and afternoon hours throughout the fall and winter.

The project would have several direct effects upon traffic. Average daily traffic on streets serving the Hospital would be reduced by about 55 trips because the project would eliminate the equivalent of 40 full-time jobs. Separation of emergency and service traffic would reduce internal traffic congestion, by eliminating conflicts between emergency and delivery vehicles.

The addition of 45 parking spaces in the proposed parking garage, together with the proposed reduction in the number of employees, would reduce demand for local on-street parking. It is estimated that during the hour of peak parking demand, 1:00-2:00 p.m., this reduction would make available approximately 64 parking spaces.

The major traffic effects of project construction would result from truck traffic involved in excavation, removal of demolition debris, and delivery of construction materials. It is estimated that these activities would involve approximately 2,650 truck trips, an overall average of about three trips per day, during the four-year construction period. However, during demolition and excavation, as many as 50 truck movements (arrivals and departures) could occur each day.

Some on-street parking spaces adjacent to the project site might be closed for intervals during the construction period to facilitate construction vehicle access, and excavation and demolition activities. Availabity of local on- and off-street parking would also be affected by parking demands of construction workers, who could require as many as fifty additional parking spaces.

Economic effects of the project would include generation of approximately 180 person-years of construction employment during the construction period. The total on-site construction payroll is estimated at approximately $4.5 million. Permanent Hospital employment would decline by about 40 full-time positions due to the elimination of the laundry, decrease in the number of beds and improvement of operational efficiencies.

Public revenues due to the project would be negligible since all construction, restoration and demolition would occur on tax-exempt properties. Construction of 45 additional off-street parking spaces could increase City parking tax revenues by about $2,200 annually. New costs to the City for providing services to the project would be negligible as all services either would be unchanged or reduced.

Fire safety at the Hospital would improve due to demolition of the woodframe buildings, and the improvement of interior fire and earthquake safety systems.

Demand for water services would be reduced by about 3,000 gallons per day, due to elimination of the laundry. The reduction of 59 beds and 130 related plumbing fixtures would reduce sewage. Demand for police and fire services would remain essentially unchanged. Electrical consumption would increase on a per sq. ft. of area basis while natural gas consumption would decrease.

Planned improvements would reduce or eliminate potential direct seismic hazards to Hospital structures and occupants. In general, the site is not subject to most secondary seismic hazards such as landslides, subsidence, and liquefaction.

Hydrological effects would be limited as no surface or groundwater resources would be permanently affected by the project. Some debris and sediment would be present in site runoff during project construction.

Principal temporary effects of the project upon plants and indirectly upon local urban wildlife would be caused by the Phase 1 remodeling of Building A, which would eliminate eight mature poplar trees and 11 Victorian box trees in the existing Hospital courtyard on Sacramento St. A landscaping plan for the proposed project is being developed; according to Hospital planners it would include ornamental plants in various types of containers in the proposed plaza, entrance courtyard, and rooftop plazas on the remodeled Building B.

Two types of air quality impacts would result from the proposed project: short-term construction impacts, including increases in particulate and hydrocarbon emissions; and long-term decreases in traffic-related impacts, including local reduction in carbon monoxide emissions.

Temporary and permanent noise impacts would result from project implementation. Temporary impacts would be associated with site preparation and construction, and would occur until building exteriors were completed.

C. MITIGATION MEASURES

Placement of the plaza at Sacramento and Cherry Sts. would reduce the apparent height of replacement Building H in relation to Sacramento St. and adjacent private properties. The new enlarged entrance courtyard on California St. and the new plaza on Sacramento St. would increase publicly accessible landscaped areas on the site. Shadows in Sacramento St. would be reduced by the removal of the woodframe buildings (K).

I. SUMMARY

The Hospital would support implementation of a Neighborhood Preferential Parking Plan and of the Muni 5-year Planning, Operations, and Management Plan for revised routes which would improve crosstown access to the Hospital. The proposed new off-street parking structure would reduce on-street parking demand by as many as 64 spaces.

Air handling systems in the replacement buildings would rely upon ambient air for cooling of non-critical areas. Construction traffic would be limited to the streets immediately fronting the Hospital site. Access would be via California St. Construction equipment would meet State and City noise specifications. Pile drivers would not be used.

D. ALTERNATIVES

The nature and objectives of the proposed project are limited to the replacement and rehabilitation of existing Hospital facilities. For this reason, alternatives that contemplate remote sites, or drastic alterations of Hospital size and function, although considered, have not been developed.

According to the Hospital administration, the no-project alternative, which, in effect, would continue present operations of the Hospital unchanged, would become progressively more impracticable as present facilities become more obsolete and Hospital design standards become more stringent. Obsolete facilities directly affect operating, maintenance and repair expenses, raising them continuously. This alternative would not enable the Hospital to effect the operating efficiencies which the replacement program would provide. This alternative would mean the Hospital would continue out of conformance with the current seismic design requirements of Title 17 of the California Administrative Code.

A planning study alternative prepared for the Hospital in 1976 recommended a program which would increase the overall floor area by 140,000 sq. ft., the number of beds by 23, the number of employees by approximately 14, and which would have provided no new off-street parking. This alternative was rejected

by the Hospital as excessive and in conflict with its objectives for optimal effectiveness, efficiency of operations, and bed occupancy.

Relocation of the Hospital to an alternate site would require replacement of an existing facility which has a total capital value of more than $40 million. It would cost at least $75 million to replace the facility on a new site. The cost of the project as proposed would be approximately $24 million. These alternatives are discussed more fully in Section VII, pp. 105-107.

II. PROJECT DESCRIPTION

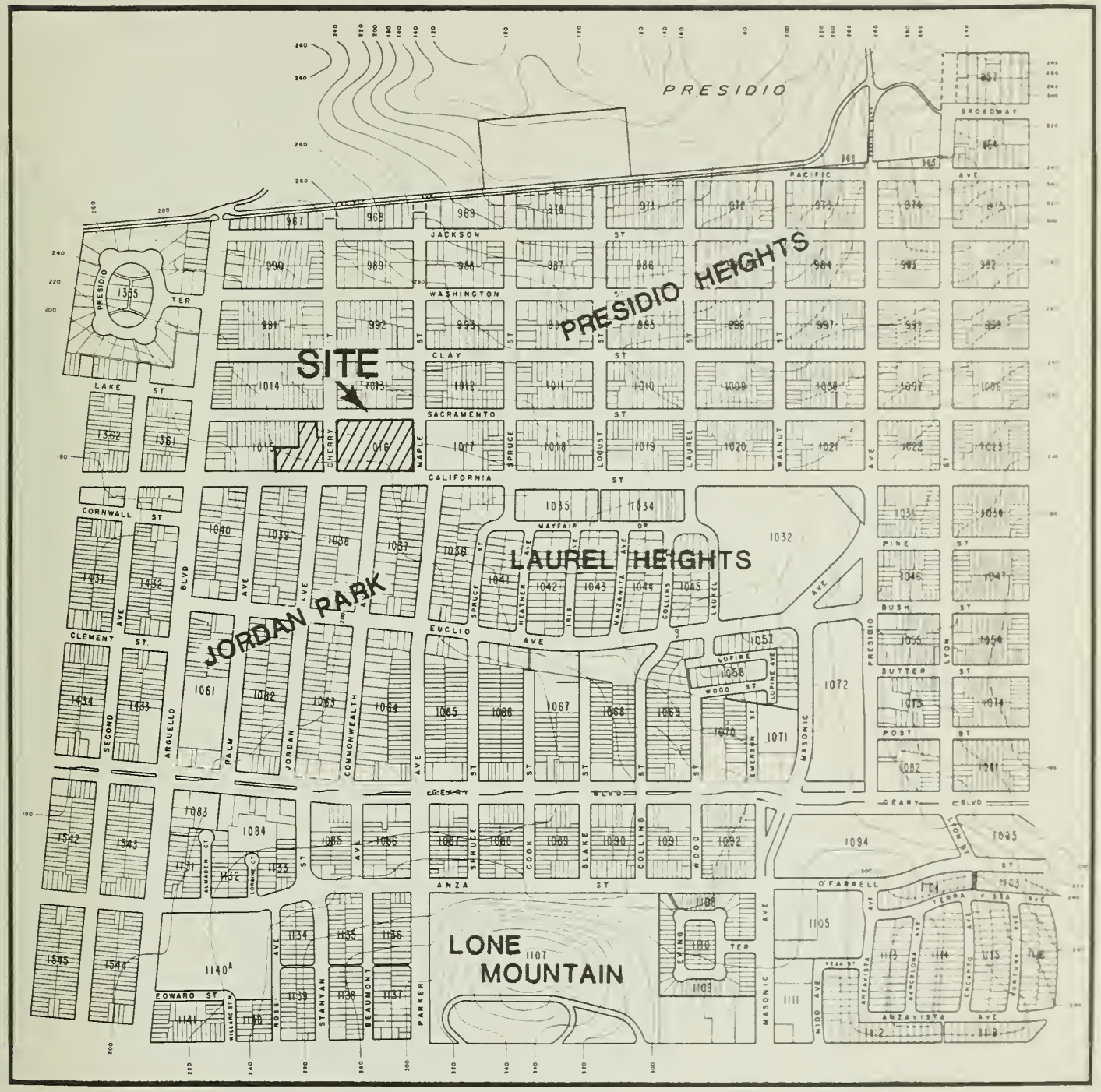
A. LOCATION OF THE PROPOSED PROJECT

Children's Hospital of San Francisco is located at 3700 California St. between the Presidio Heights and Jordan Park residential neighborhoods in the Inner Richmond District. It occupies all of Assessor's Block 1016, bounded by California, Maple, Sacramento, and Cherry Sts., and a portion of Assessor's Block 1015 (Lots 52, 53, and 54), on the west side of Cherry St. (see Figures 1 and 2, pp. 9 and 10). The project would be constructed in four phases over a four-year period and would be located entirely in Block 1016 which is 2.5 acres.

Children's Hospital was founded in 1875 as a non-profit, non-sectarian hospital for women and children. It located at its present site in 1887 and is now a major acute primary care and referral center serving all adults and children with inpatient and outpatient diagnostic and therapeutic medical, surgical, pediatric, and obstetrical services.

B. OBJECTIVES OF THE PROPOSED PROJECT

The existing buildings in Assessor's Block 1016 were completed variously in 1914, 1929, 1954, and 1966 replacing earlier buildings which survived the 1906 earthquake. In 1973 health service consultants were employed by Children's Hospital to help it determine the nature and extent of its future role as a



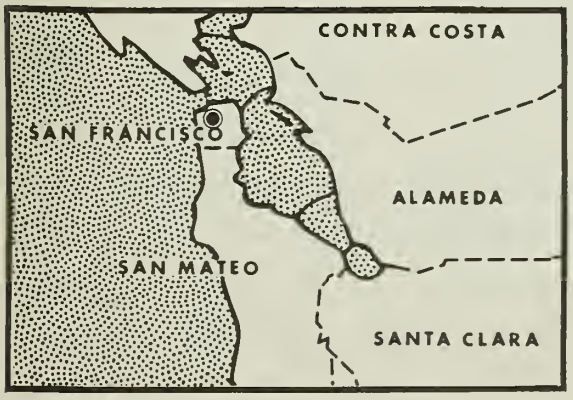


FIGURE 1 SITE LOCATION IN RELATION TO PRESIDIO HEIGHTS, JORDAN PARK, AND LAUREL HEIGHTS, AND TO THE BAY REGION

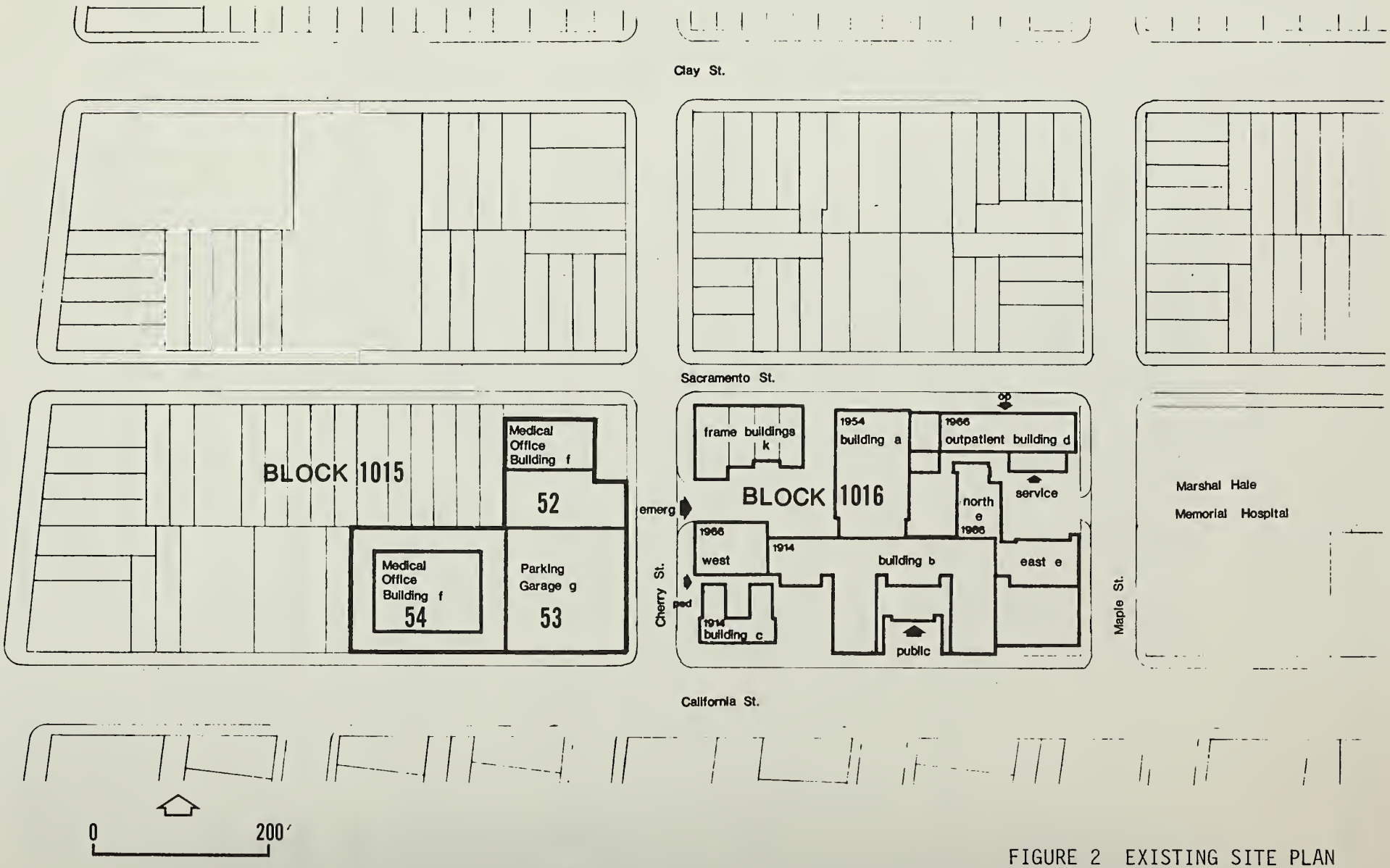


FIGURE 2 EXISTING SITE PLAN

provider of health care services in San Francisco and the Bay Area. After various alternatives pertaining to services and location were considered, it was concluded that Children's Hospital should 1) continue to provide its present services and not embark on more specialized services such as open-heart surgery or dialysis; 2) continue medical education and training at its present level; 3) continue to conduct applied medical research at its present site; and 4) develop a long-term program for the replacement of obsolescent buildings. On the basis of these conclusions, the Hospital developed a physical plan. In 1976, the Hospital filed a Long Range Development Plan (Master Plan) with the San Francisco City Planning Commission pursuant to Section 304.5 of the City Planning Code which requires filing of master plans by major medical and educational institutions./1/ A public hearing on the plan was held by the City Planning Commission on 9 June 1977. In response to comments and concerns expressed by neighborhood residents and members of the City Planning Commission, the plan was modified as described in this report, and in documents filed at the Department of City Planning with an application for a conditional use permit for the proposed project on 14 June 1978 (CU 78.34)./2/

The basic objective of the proposed project is to replace or remodel the space occupied by the various functions and activities of the Hospital currently located in buildings determined to be in noncompliance with seismic safety design requirements of the California Administrative Code or which are otherwise obsolescent, and to reduce the number of beds. The buildings determined to be in noncompliance with current seismic safety standards are Building C at the northeast corner of California and Cherry Sts., completed in 1914, Building B fronting on California St., completed in 1914 and 1929, and Buildings K, the frame structures on Sacramento St. at Cherry St. (see Figure 2, p. 10).

In accordance with Section 437.13 of the California Health and Safety Code, Certificate of Exemption No. 582 was granted by the California Department of Health in response to an application filed on 31 October 1977 by the Hospital for exemption from the requirement for a Certificate of Need./3/ The exemption is based on the determination that the project would be a replacement and renovation project not entailing new or expanded services.

C. SERVICES PROVIDED BY CHILDREN'S HOSPITAL

The principal services provided by Children's Hospital are in obstetrics and gynecology,/4/ pediatrics, internal medicine, surgery (general surgery, neurosurgery, plastic surgery, urology, ophthamalogy, otolaryngology, and dentistry), diagnostic and therapeutic radiology, anatomic pathology, orthopedics, psychiatry, child development, melanoma and immunology, neuromuscular diseases, and 24-hour emergency services.

In 1977, the Hospital admitted 13,900 inpatients and accommodated 49,000 outpatient visits. More than two-thirds of all the patients served by Children's Hospital reside in San Francisco. The principal districts within the City where patients reside are shown in Table 1.

Children's Hospital operates community service programs which provide coordinated primary care and supportive specialty, ancillary and inpatient services at rates based on the patient's ability to pay. Services for both children and adults include preventive care, general acute care, mental health services, care for developmentally impaired children, and specialized services of muscular dystrophy, melanoma and immunology. During 1976-77, 54,000 outpatient services and 2,000 inpatient days were provided through these programs representing 13% of the total operating expense of the entire hospital. Children's Hospital is one of six principal community resources for such primary and specialty outpatient care in San Francisco.

Children's Hospital provides accredited graduate training programs for physicians in internal medicine, pediatrics, and radiology. It is a major affiliate of the University of California School of Medicine in San Francisco (UCSF), conducting integrated programs with UCSF in obstetrics and gynecology, orthopedics, radiology, and general surgery. In addition it has affiliated programs in otolaryngology with UCSF, in internal medicine with Marshal Hale Memorial Hospital, in pediatrics with Pacific Medical Center, and in child psychiatry with Pacific Medical Center, the San Francisco Mental Health Services Program and UCSF. The total number of resident positions and fellowships during the 1976-77 fiscal year was 62, of which 75% were fully financed by Children's Hospital. The Hospital undergraduate medical student

TABLE 1: PLACE OF SAN FRANCISCO RESIDENCE OF INPATIENTS, OUTPATIENTS AND COMMUNITY SERVICE PROGRAM PATIENTS, BY PERCENT OF TOTAL, BY 15 HIGHEST PERCENTAGE ZIP CODE AREAS, CHILDRENS'S HOSPITAL

ZIP CODE AREA		INPATIENTS* (1976-77) PERCENT OF TOTAL	OUTPATIENTS** (August 1978) PERCENT OF TOTAL	COMMUNITY SERVICE PROGRAM PATIENTS** (August 1978) PERCENT OF TOTAL
94118	Inner Richmond	9	10	7
94109	Inner Pacific Heights-Van Ness-Nob Hill	9	6	3
94115	Western Addition	8	6	9
94121	Outer Richmond	7	7	6
94123	Marina-Cow Hollow	6	5	1
94122	Sunset	6	5	5
94117	Buena Vista-Twin Peaks	5	4	8
94116	Parkside-Forest Hill	5	3	3
94112	Outer Mission	5	3	6
94134	Portola-Visitacion	4	2	5
94124	Bayview-Hunters Point	4	1	5
94110	Mission	4	3	4
94114	Eureka Valley-Noe Valley	3	3	2
94131	Diamond Heights	3	2	2
94132	Lake Merced	3	2	3

*Detailed data on inpatients by area of origin, age, sex, and ethnic composition, compiled by Children's Hospital, is on file at the Department of City Planning, Office of Environmental Review.
**Detailed data on outpatients and community service program patients and types of service utilized, compiled by Children's Hospital, are on file at the Department of City Planning, Office of Environmental Review. San Francisco outpatients numbered 7,730 of a total of 10,824 during the survey period; of these 2,873, were Community Service Program patients.

programs also include UCSF clerkships for all major services, including anesthesiology, obstetrics, gynecology, pediatarics, psychiatry, and surgery. The total number of students participating in the above programs each year is approximately 350.

In related health education, Children's Hospital has five affiliated nursing programs and training programs for dieticians, medical assistants, medical record librarians, administrative residents,/5/ social work, laboratory technology, physical therapy, radiology technology, and occupational therapy. Together, the cost of all these educational activities represents 3% of the Children's Hospital current operating budget of $37 million.

Some members of the medical staff of Children's Hospital are engaged in basic and applied research projects at Children's Hospital and at other medical institutions in the Bay Area. Such research is supported by Federal, State, or private foundation grants, or restricted gifts. Research expenditures for 1976-77, including grant funds, totalled $440,000.

Children's Hospital is one of four members of the Federation of San Francisco Hospitals which includes Mount Zion Hospital and Medical Center, Presbyterian Hospital of the Pacific Medical Center, and St. Luke's Hospital. The Federation seeks to discourage the duplication of services and establish areas of mutual concern in which joint programs could enhance the interests of the institutions, community, and patients. Although direct merger has been deemed infeasible at this time,/6/ examples of reduction of duplication include agreements between Pacific Medical Center and Children's Hospital to centralize open heart surgery at Pacific Medical Center and obstetric and pediatric services at Children's Hospital.

The Hospital has a contract with the French Society Prepaid Health Plan (French Hospital) to provide pediatric, newborn intensive care, obstetric, radiation therapy and emergency treatment services. The radiation therapy service includes physicians and serves patients from French and Marshal Hale Memorial Hospitals. The Department of Anatomic Pathology and Clinical Laboratories at Children's Hospital provides electronmicroscopy services for Pacific Medical Center, Mt. Zion, Marshal Hale, and St. Joseph's Hospitals. Children's Hospital serves Kaiser Hospital of San Francisco for obstetrical ultrasound scanning. The Newborn Intensive Care Unit at Children's Hospital receives prematurely born and high-risk infants from St. Mary's, French, Mary's Help, and Marin General Hospitals, as well as from hospitals as far north as Crescent City and as far south as San Luis Obispo.

Because of physical proximity, Children's and Marshal Hale Memorial Hospitals are cooperating in programs such as the following:

Power Plant and Steam (based at Children's)
Pacemaker Clinic (based at Children's)
Acute Dialysis (shared service with Marshal Hale using mobile equipment and personnel)
Medical Education Program (based at Children's)
Radiation Therapy (based at Children's)
Occupational Therapy (based at Children's)
Employees Credit Union (based at Children's)

New discussions have been initiated with French Hospital and Marshal Hale Memorial Hospital to expand the concept of cooperative ventures.

D. SITE AND BUILDING PLAN

The proposed project would be carried out in four phases over four years to enable the Hospital to operate during construction. The proposed program would replace or remodel structures in the Hospital complex which either fail to comply with existing or proposed seismic safety standards of the California Administrative Code or which are technologically, functionally, or physically obsolescent. The project would be confined to Assessor's Block 1016 and would consist of 1) remodeling some floors in Buildings A and D, 2) removing the upper floors of Building B and remodeling the basement and ground floors to comply with seismic safety standards, and 3) removing Building C at California and Cherry Sts. and the frame buildings K on Sacramento St. which do not comply with seismic safety standards. Principal new construction would consist of Building H at Cherry and California Sts., Building J at levels 1, 2, 3, and 4 above the remodeled base of Building B, and a two-level parking structure under a street level plaza at the corner of Sacramento and Cherry Sts. (see Figure 3). The project would result in a 16 percent reduction in authorized beds, from 382 to 323, with no change in bed classifications.

A breakdown by service would provide the following bed configuration compared with the present:

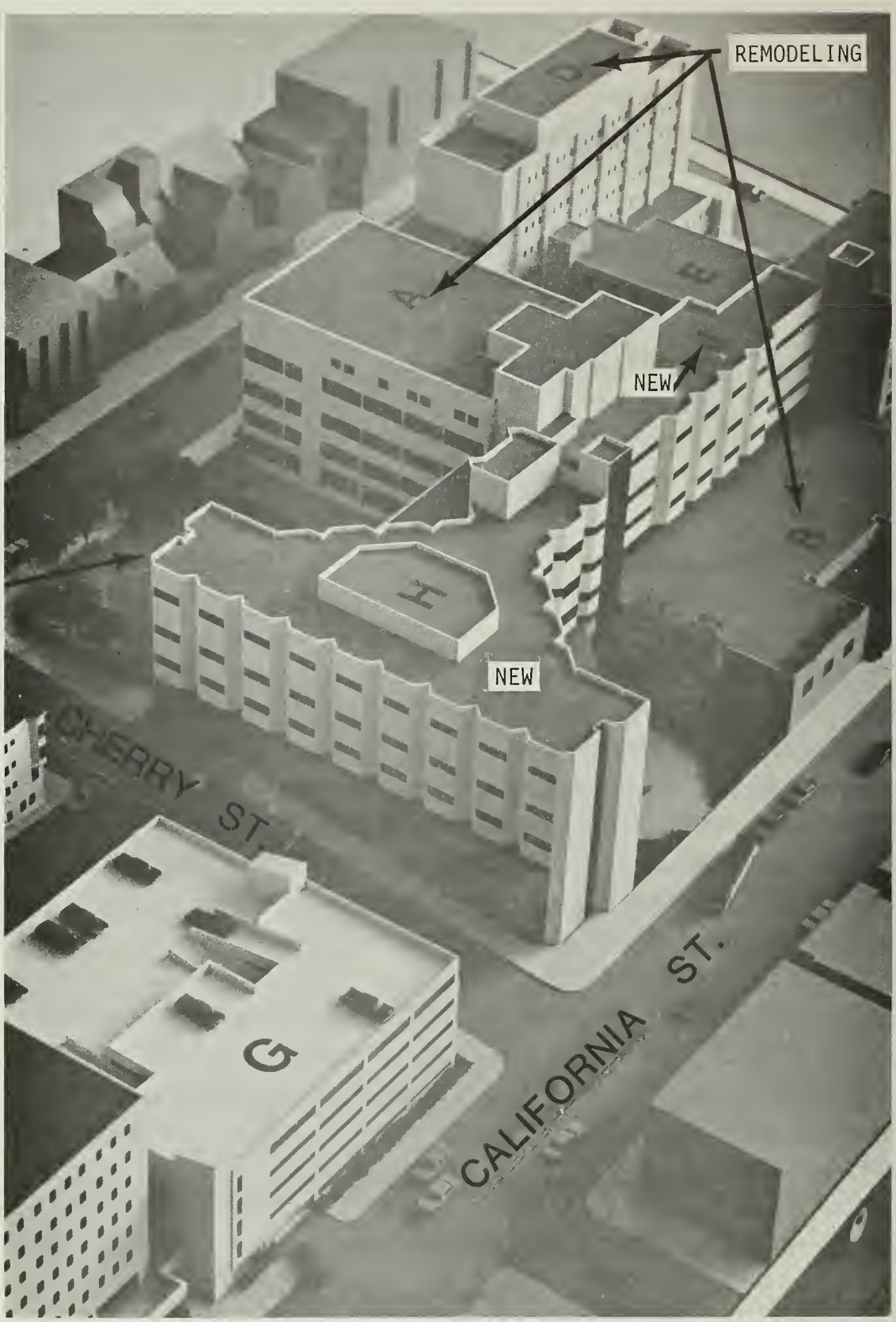


FIGURE 3 SITE DEVELOPMENT PROPOSAL

General Hospital Beds	Present	Proposed	Change
Medical-Surgical	253	225	-28
Obstetrical	35	32	- 3
Pediatric	58	30	-28
Intensive Care Beds			
Neonatal Intensive Care Unit	20	20	0
Intensive Care Unit	8	8	0
Coronary Care Unit	8	8	0
	382	323	-59

The change in types of patient accommodations would be as follows:

	Existing Beds	Proposed Beds	Change
Private	126	154	+28
Semi-Private	144	118	-26
Ward	92	31	-61
	362	303	
Neonatal ICU	20	20	0
	382	323	-59

It is estimated by the Hospital that the reduction in beds would result in an 80% occupancy rate, the national standard established by the Health Resources Administration of the U.S. Department of Health, Education, and Welfare, to be attained within five years. (The overall occupancy rate in 1976-77 was 61%.) The increase in private beds and the decrease in semi-private and ward beds reflects current concepts in hospital design to achieve maximum operational efficiency and flexibility.

The building area involved in the project is shown below.

Present Square Footage	347,000		
Demolition	-119,500		
Remaining Square Footage		227,500	
New Construction		+130,600	
Total Square Footage of Completed Project			358,100

The 11,000 sq. ft. increase in gross floor area would result from the increase in the number of private rooms compared with semi-private rooms and from the provision of additional space for those services and activities which

currently lack sufficient space in which to function efficiently. These services and activities include nursing units, diagnostic, treatment, and general support services, and administrative functions.

The project would separate service traffic from emergency and patient-visitor traffic by locating the materials receiving area on Maple St. Materials management would be centralized for receiving, storage, processing and distribution. The principal replacement building, Building H, would be located west of the existing buildings to be retained. The main entrance to the hospital complex would be on California St. in the new building, and secondary access would be provided from Cherry St. The ambulance and emergency entrance would be retained at its present location off Cherry St. Inpatient nursing units would be located on the upper floors. Critical functions, including surgery, would be on the third level. Administrative functions would be on the first level. Ambulatory care functions would be located at ground level, convenient to patient access. Centralized service functions would be located at the basement level. The on-site laundry would be eliminated and off-site contractual laundry service obtained.

E. PROJECT SCHEDULE, REQUIRED ACTIONS, AND COSTS

The project is scheduled to start in 1979 and to be completed in 1983. The first phase of the program, scheduled to start in 1979, for completion in 1980, would be implemented in the following sequence:

- Remodeling of the basement and ground floors of Building A for centralized materials management and diagnostic radiology, respectively. Both levels would be extended from the present building approximately 27 ft. to the west.
- Remodeling of the pediatrics nursing unit on the first level of Building A.
- Remodeling the basement and ground floors of the Outpatient and Research Building D to be used for building maintenance and biomedical engineering.
- Remodeling of the basement of the east wing of Building E for the Hospital's medical library and education and training space.
- Construction of a new, consolidated service entrance off Maple St.

The second phase, scheduled to start in late 1979, for completion in late 1981, would consist of the following:

- Demolition of Building C and the west leg of Building B.
- Construction of Building H.

Building H would contain diagnostic and treatment functions at the basement and ground levels, administrative and support functions at the first level, and critical care, medical/surgical and obstetrical beds at the second, third, and fourth levels. Building H would also contain nursing units composed of up to 38 individual patient care accommodations.

The third phase, scheduled to begin late in 1981, for completion in 1983, would consist of the following:

- Demolition of the seismically unsafe nursing floors 1, 2, 3 and 4 of Building B.
- An upgrading of the basement and ground floor levels to conform to structural seismic codes.
- Construction of Building J above the structurally rehabilitated basement and ground floor levels of Building B.

Building J would contain four levels, including nursing units and support space, and would connect Building H to Building A and the two wings of Building E. Underground extensions of this connection west under Cherry St. to the Medical Office Building and parking structure in Block 1015, and east under Maple St. to Marshal Hale Memorial Hospital, could be accommodated in the future; however they are not included in the current project. The two institutions are currently discussing implementation of the latter corridor for the movement of patients and supplies.

The fourth phase, which would be started at the end of 1981 for completion in 1982 would include:

- Demolition of the frame buildings on Sacramento St.
- Construction of a two-level underground parking structure with 45 spaces;
- Construction of a landscaped plaza above the parking structure.

II. PROJECT DESCRIPTION

The completed project would result in the building configuration shown in Figure 3, p. 17. Plans for each floor level are shown in Figures 4 through 11, pp. 22 through 29.

A conditional use application (CU. 78.34) was filed with the City Planning Commission on 14 June 1978 and will be scheduled for hearing upon completion of action by the City Planning Commission on this Environmental Impact Report (see Section IV.A, p. 70). The project is estimated to cost $24,106,000, a figure lower than that specified in the Certificate of Exemption granted by the California Department of Health (see p. 12) due to refinements in the proposed plan.

Action by the City Planning Commission on the conditional use application would be required before demolition and construction permits could be issued. At the request of the Commission, the West Bay Health Services Agency would review this project before any action by the Commission.

The project is sponsored by Children's Hospital of San Francisco. The project architects and engineers are Ellerbe, Architects/Engineers/Planners, Bloomington, Minnesota. The project contractor is Cahill Construction Company, San Francisco.

FOOTNOTES - Project Description

/1/ Part II, Chapter II of the San Francisco Municipal Code.

/2/ Children's Hospital of San Francisco and Ellerbe, Architects/Engineers/Planners, Bloomington, Minnesota, 14 June 1978, CU 78.34, Department of City Planning.

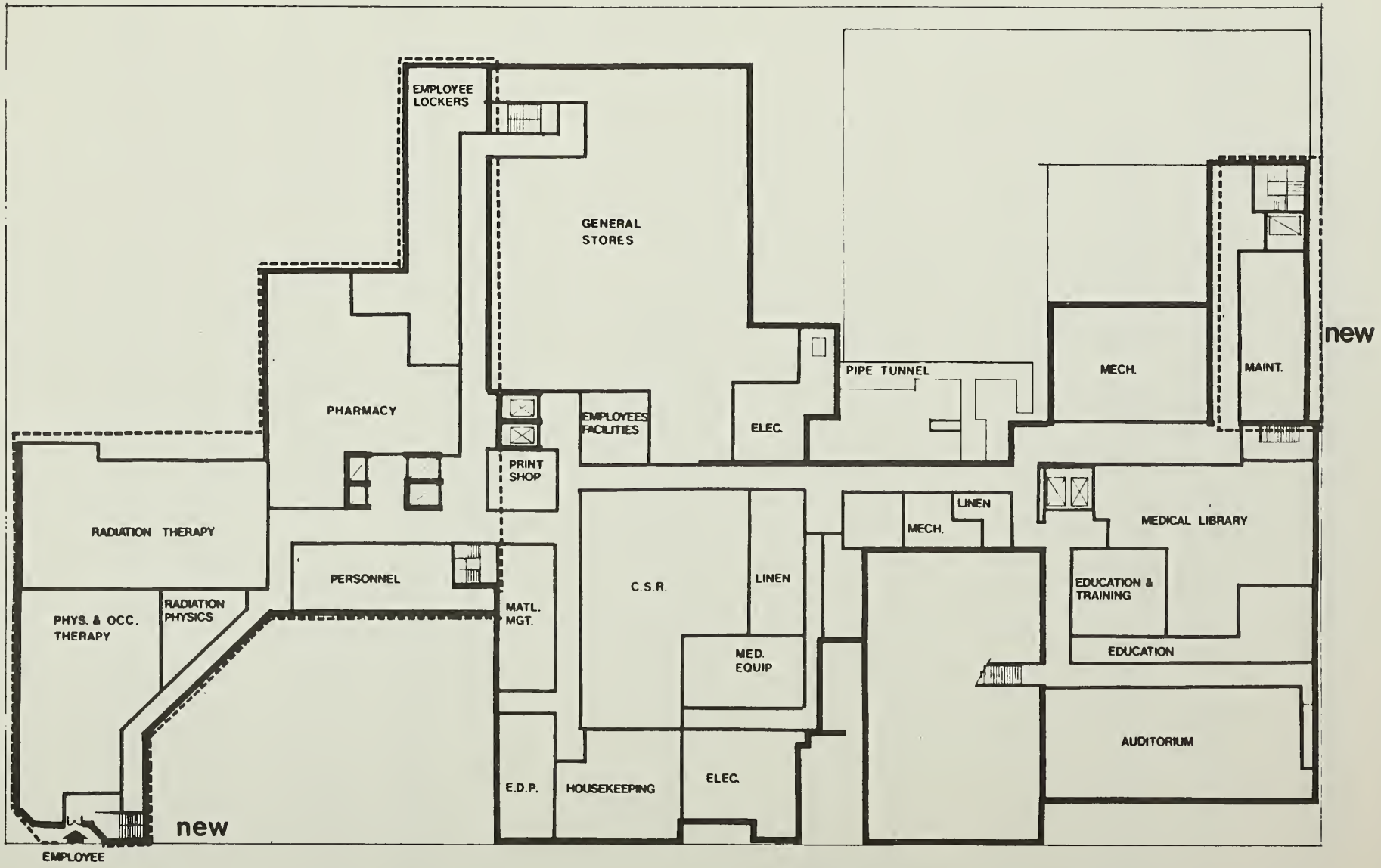
/3/ A copy of the application for the Certificate of Exemption, supportive data, and the letter of certification are on file with the Department of City Planning, Office of Environmental Review.

/4/ Children's Hospital is the only private, non-profit institution in the City of San Francisco beside the Kaiser-Permanente facility, which has had more than 2,000 obstetrical deliveries per year. Children's Hospital also serves as a referral center, particularly for high-risk deliveries. Rules proposed by the U.S. Department of Health, Education, and Welfare in September 1977 indicated that more than 2,000 deliveries are generally required to

maintain a consistently high standard of obstetrical care and a reasonable economic operation of an obstetrical unit in an area of more than 100,000 population.

/5/ Administrative residents are students enrolled in masters degree programs in health administration at a university. Such programs require that students serve time in a health institution under a proctor.

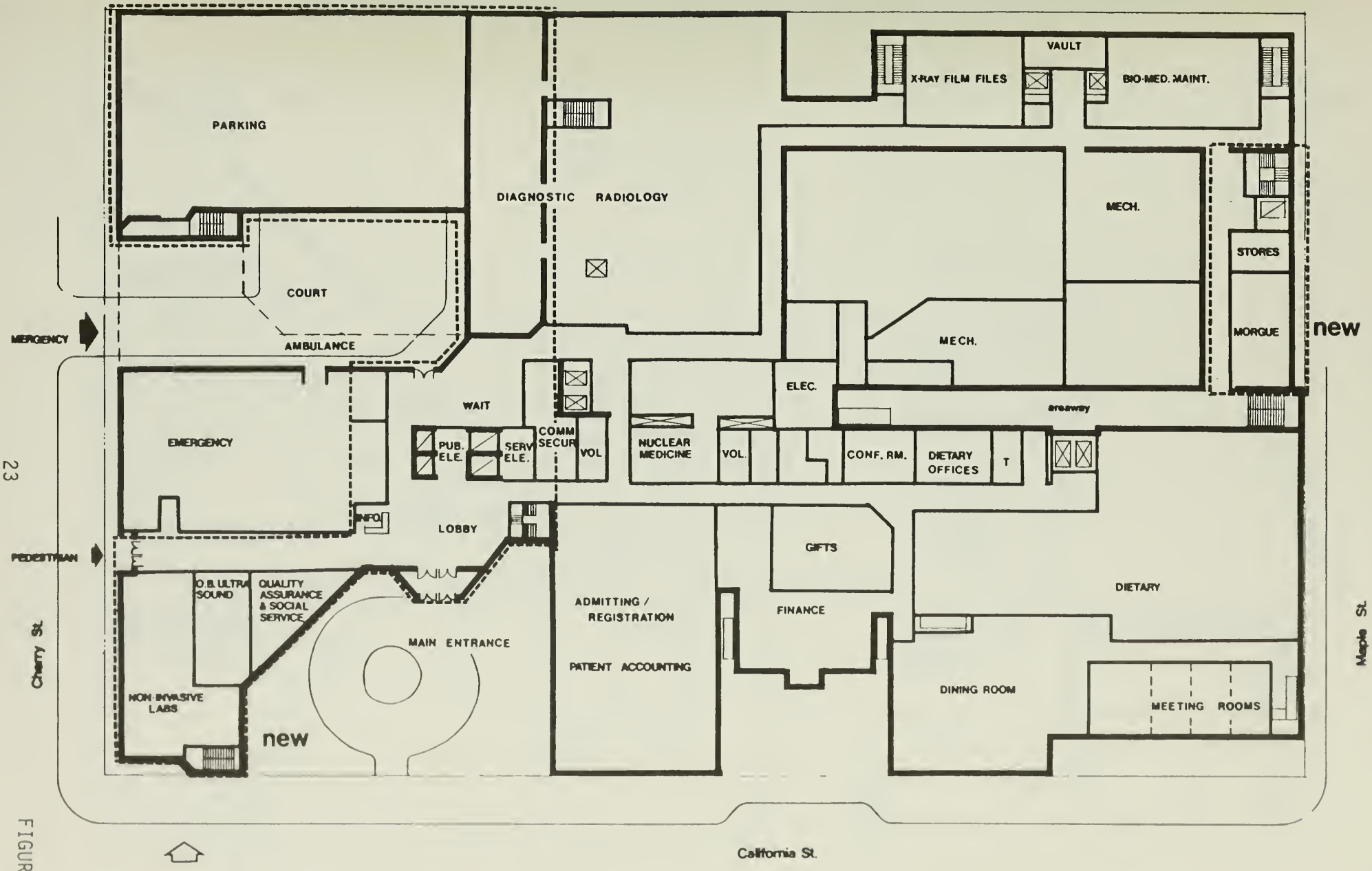
/6/ A statement of policy by the Board of Directors is on file at the Department of City Planning, Office of Environmental Review.



Source - Ellerbe, Architects/ Engineers/Planners

FIGURE 4 PROPOSED BASEMENT LEVEL, CHILDREN'S HOSPITAL

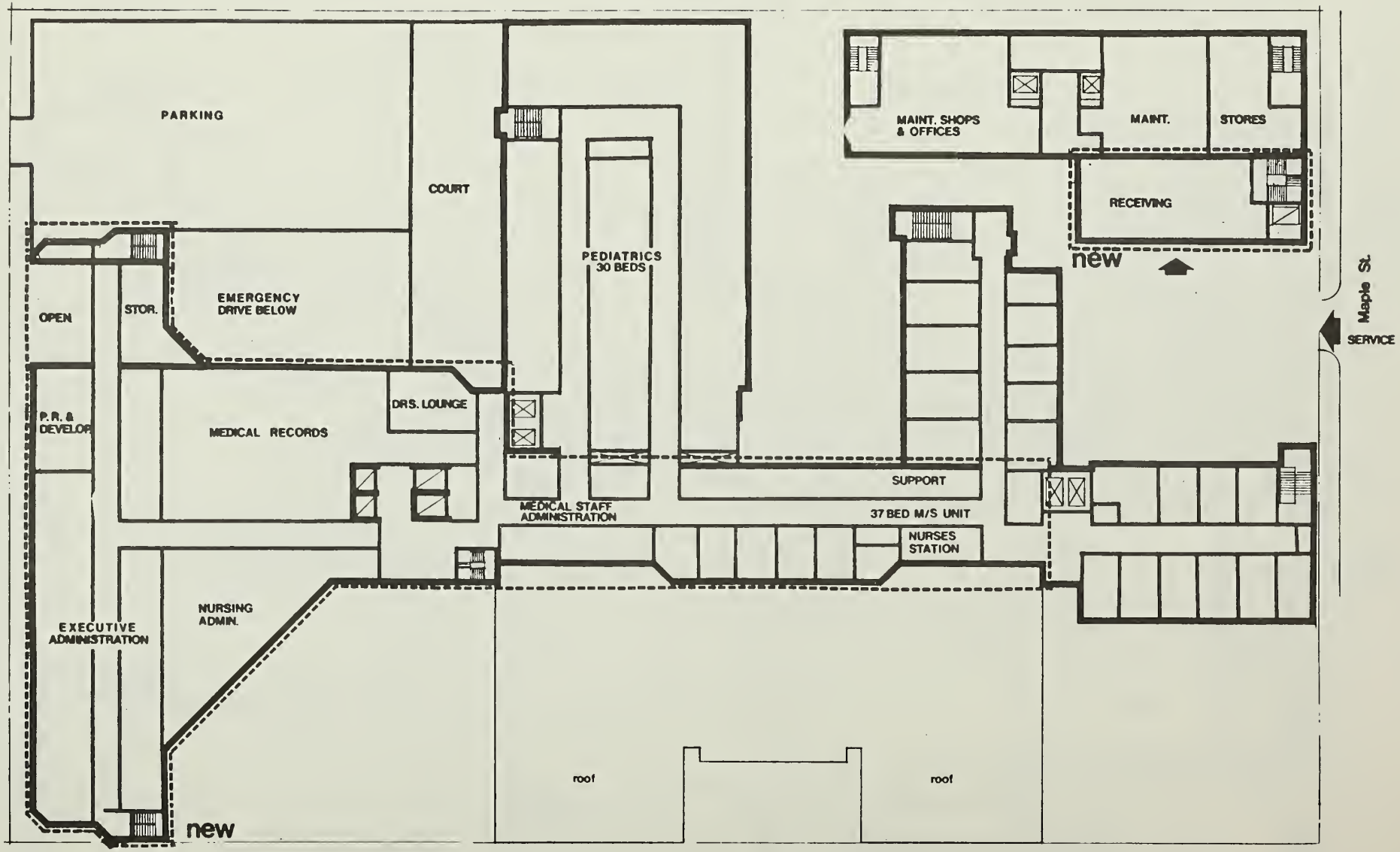
FIGURE 4



Source - Ellerbe, Architects/ Engineers/Planners

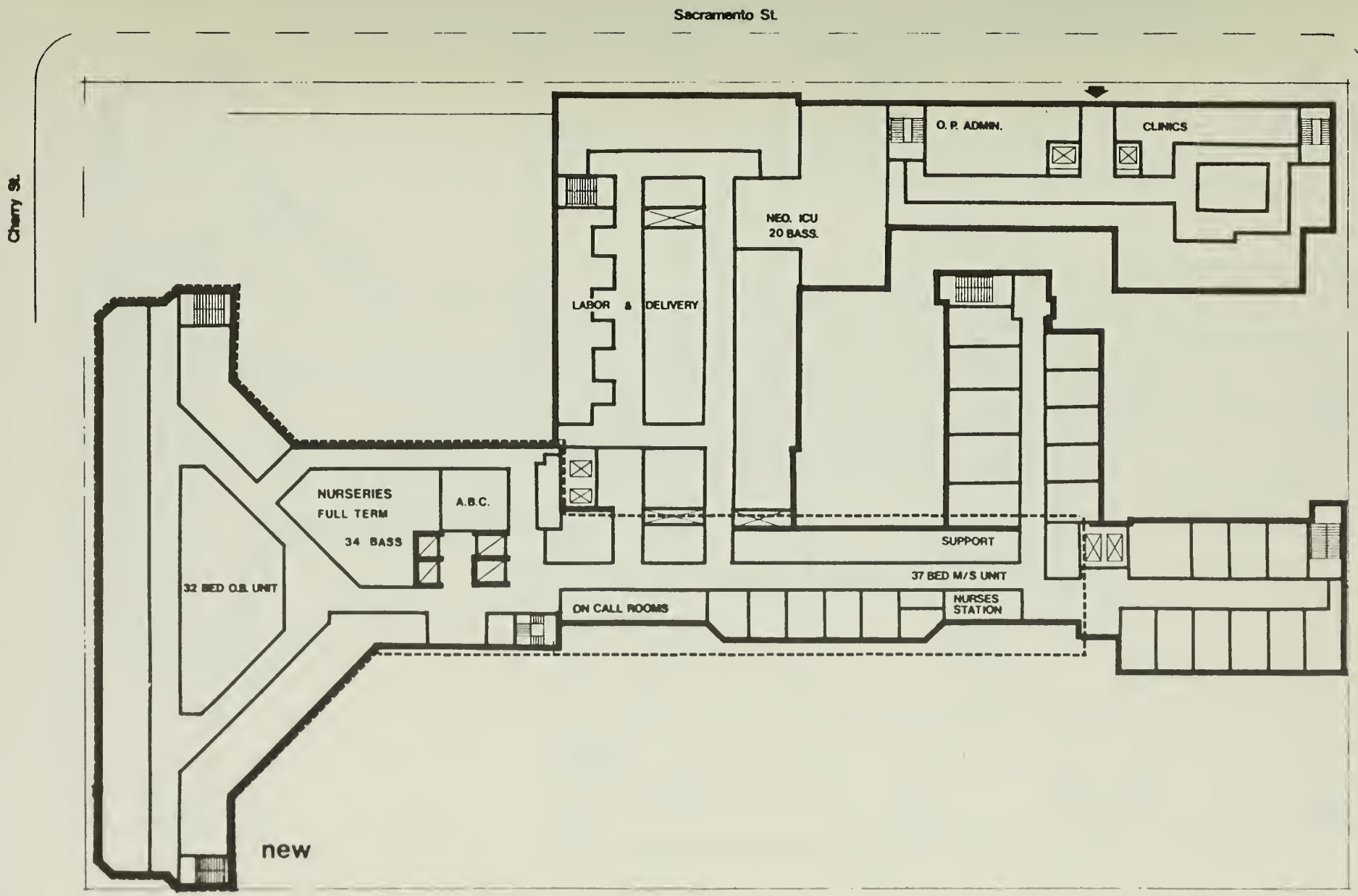
FIGURE 5 PROPOSED GROUND FLOOR LEVEL, CHILDREN'S HOSPITAL

FIGURE 5



Source - Ellerbe, Architects/ Engineers/Planners

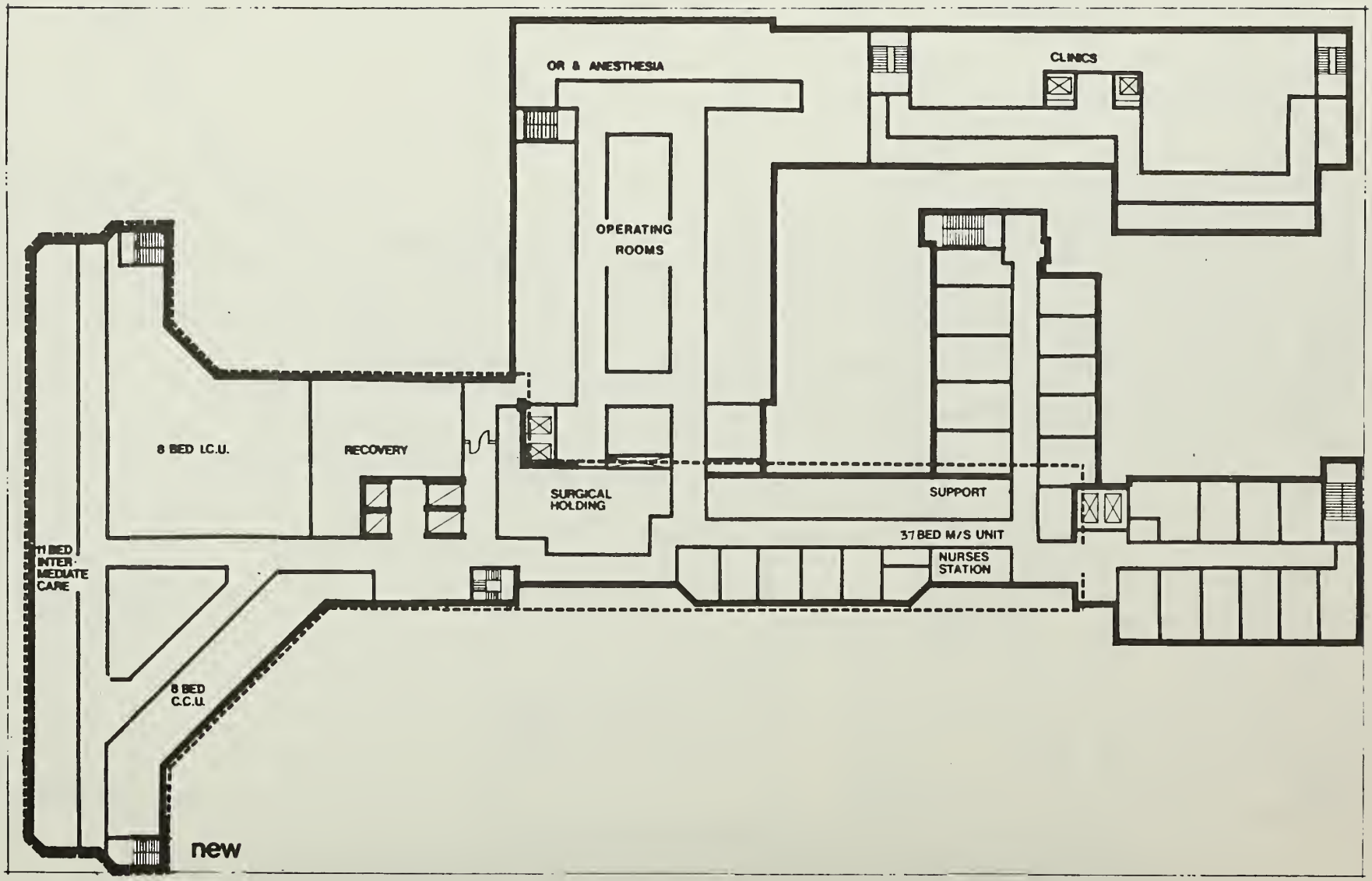
FIGURE 6 PROPOSED FIRST FLOOR LEVEL, CHILDREN'S HOSPITAL



Source - Ellerbe, Architects/ Engineers/Planners

FIGURE 7 PROPOSED SECOND FLOOR LEVEL, CHILDREN'S HOSPITAL

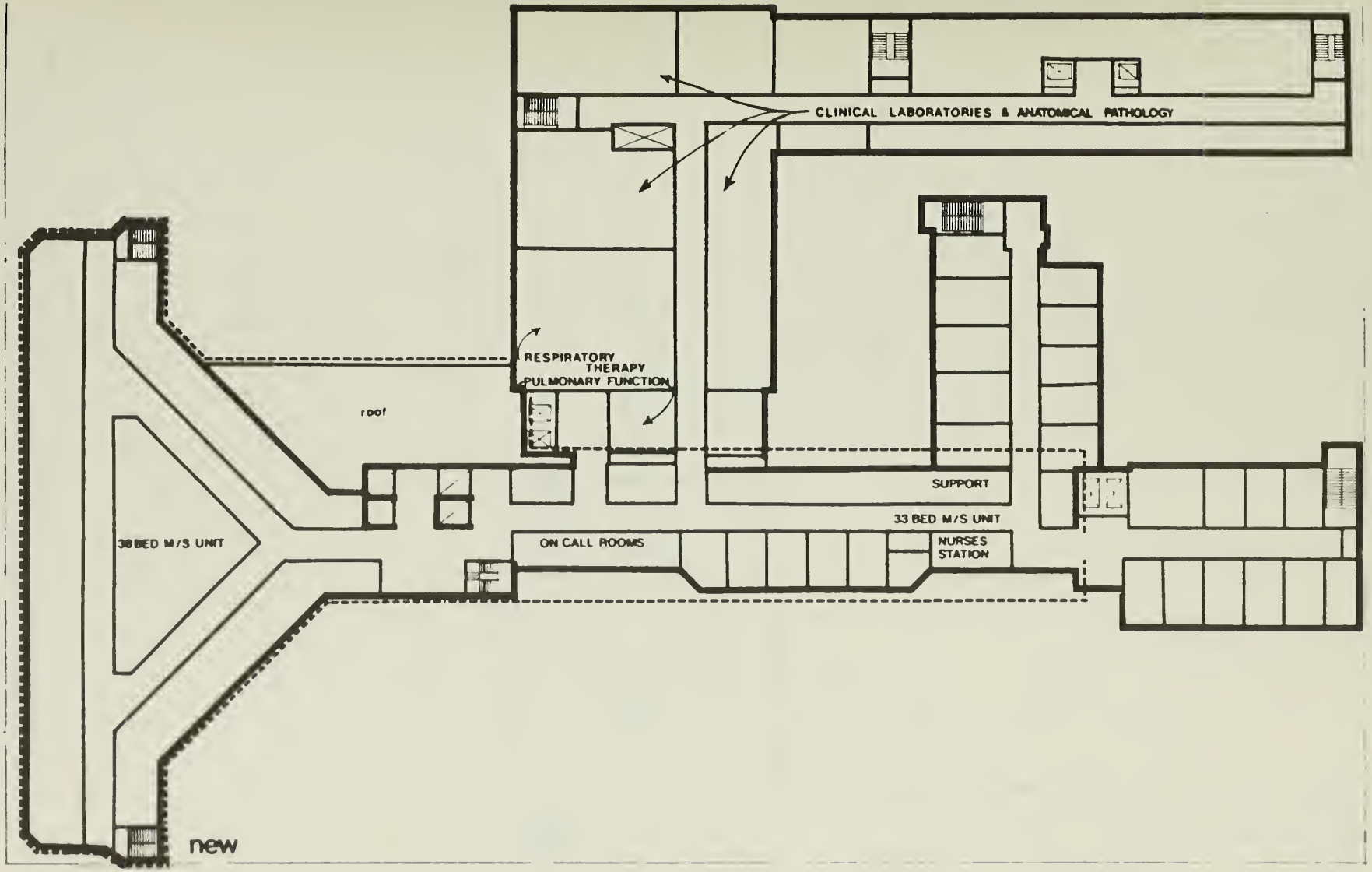
FIGURE 7



Source - Ellerbe, Architects/ Engineers/Planners

FIGURE 8 PROPOSED THIRD FLOOR LEVEL, CHILDREN'S HOSPITAL

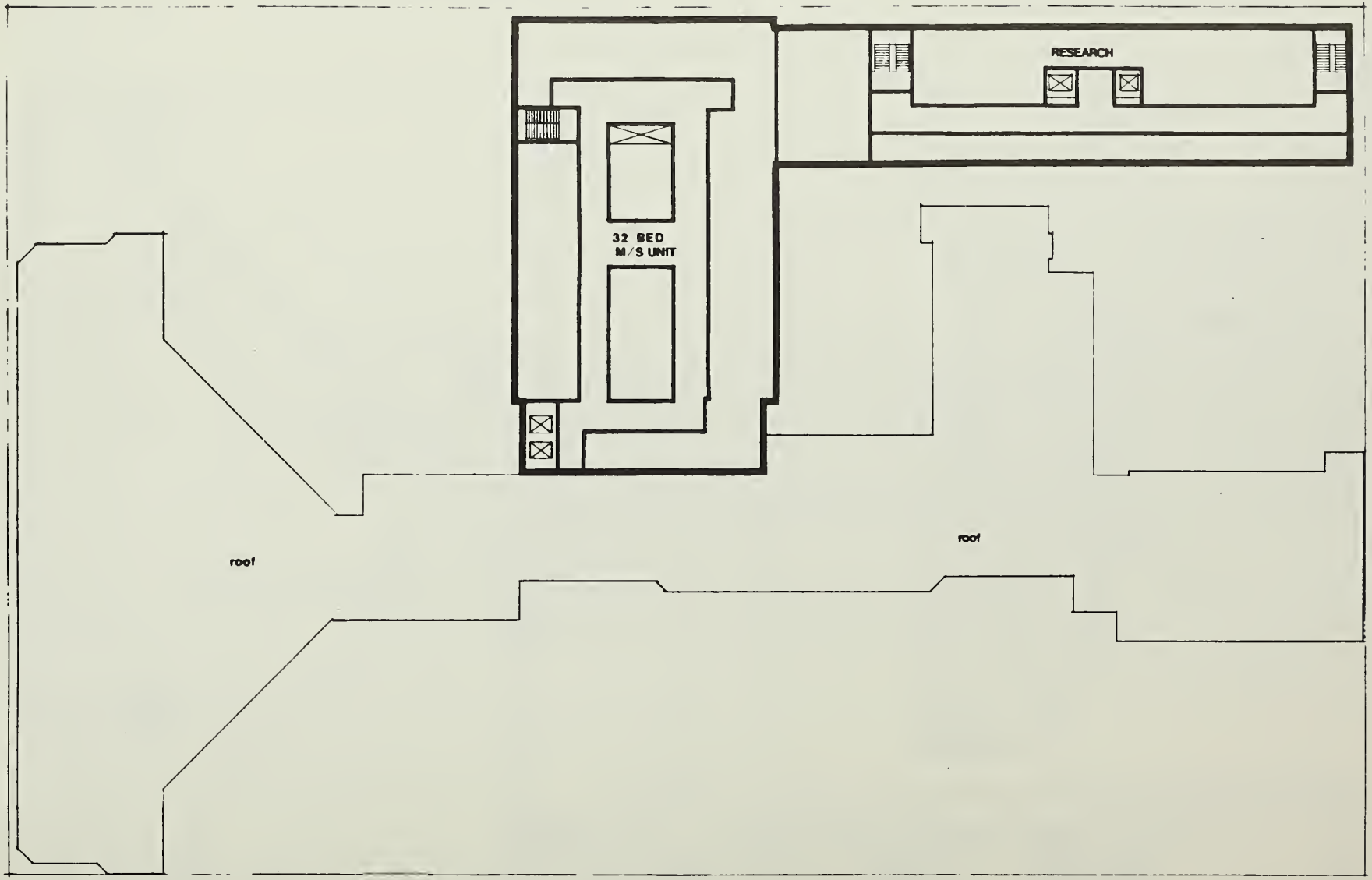
FIGURE 8



Source - Ellerbe, Architects/
Engineers/Planners

FIGURE 9 PROPOSED FOURTH FLOOR LEVEL
CHILDREN'S HOSPITAL

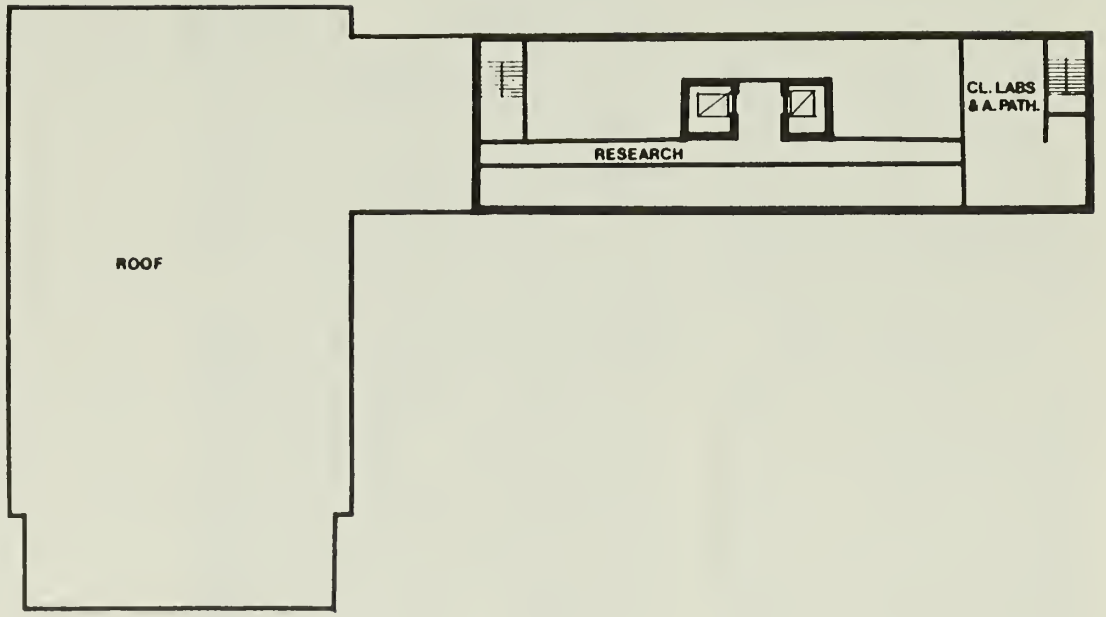
FIGURE 9



Source - Ellerbe, Architects/
Engineers/Planners

FIGURE 10 PROPOSED FIFTH FLOOR LEVEL
CHILDREN'S HOSPITAL

FIGURE 10



0 32′

Source - Ellerbe, Architects/
Engineers/Planners

FIGURE 11 PROPOSED SIXTH FLOOR LEVEL
CHILDREN'S HOSPITAL

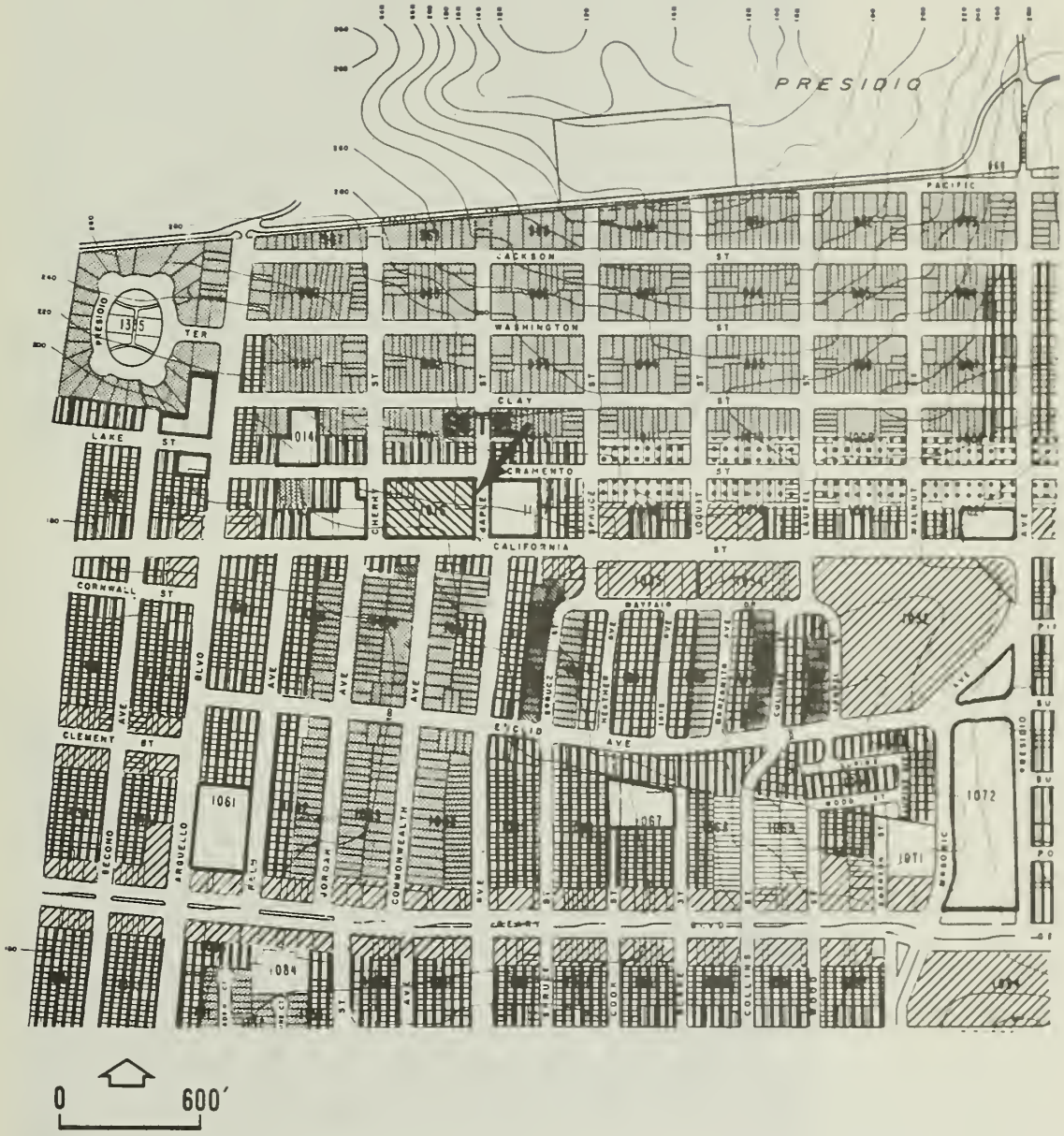
III. ENVIRONMENTAL SETTING

A. LAND USE, ZONING, AND COMMUNITY CHARACTERISTICS

LAND USE AND ZONING

The neighborhood around Children's Hospital is predominantly residential. California and Sacramento Sts., and Arguello Blvd., are developed primarily with two- and three-story apartment buildings (see Figure 12). Presidio Heights north of Sacramento St. and Jordan Park south of California St. consist predominantly of single-family houses with front gardens and sideyards (see Frontispiece). Yards and streets are generally well-maintained, with small trees growing along most streets (see Figure 13, p. 32). The local street pattern is composed of two rectilinear grids separated by California St. Retail stores serving local residents are in the Laurel Village Shopping Center on the south side of California St. between Spruce and Laurel Sts. and in a mixed commercial-residential strip on both sides of Sacramento St. extending from Spruce St. eastward to Lyon St. Medical offices are established in some buildings on California and Sacramento Sts.

The Marshal Hale Memorial Hospital is across from Children's Hospital on the east side of Maple St. The only other institution in the area is the public Madison Elementary School located between Sacramento and Clay Sts. one-half block west of Cherry St. This school was closed in June 1978 but will be



LEGEND

- SINGLE-FAMILY RESIDENTIAL
- MULTIPLE-FAMILY RESIDENTIAL
- RESIDENTIAL-COMMERCIAL
- COMMERCIAL
- INSTITUTIONAL
- PROJECT SITE

FIGURE 12 GENERALIZED LAND USE IN THE VICINITY OF CHILDREN'S HOSPITAL.

JORDAN AVE., SOUTH FROM CALIFORNIA ST.

MAPLE ST., SOUTH FROM CLAY ST.

FIGURE 13 VIEWS OF JORDAN AVE. AND MAPLE STREET IN THE VICINITY OF CHILDREN'S HOSPITAL

retained and made available on a lease basis by the San Francisco Unified School District for uses which conform with the City Planning Code./1/ Temple Emanu-El and St. John's Presbyterian Church are located nearby on Arguello Blvd.

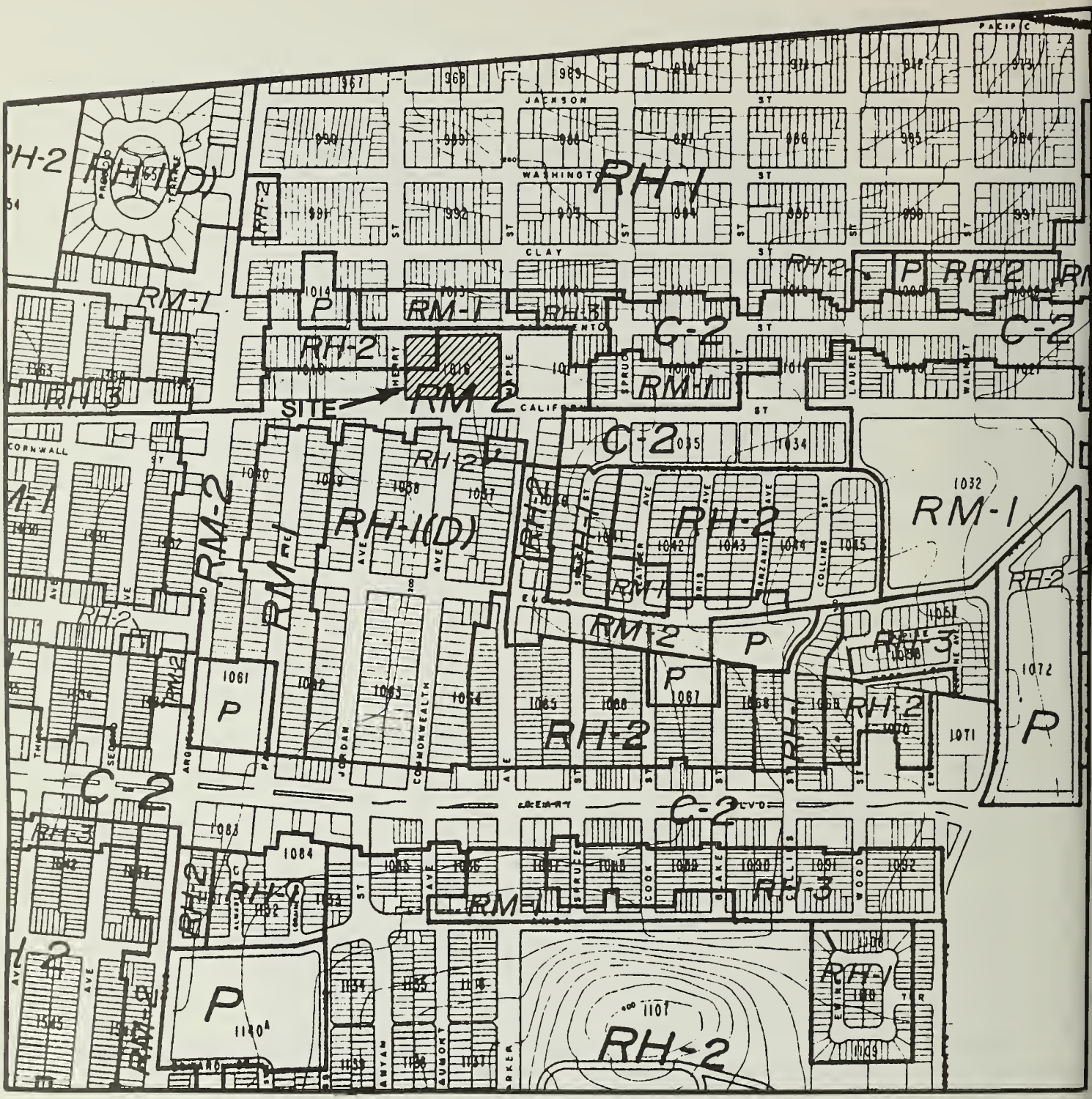
Most of Children's Hospital is in an RM-2, Mixed House and Apartment Character District in which one dwelling unit is permitted for each 600 sq. ft. of lot area. The medical office building on Sacramento St. in Block 1015, and the existing woodframe buildings on Sacramento St. in Block 1016, are in an RH-2, House Character District, in which two-family dwellings are permitted (see Figure 14). Hospitals are permitted in these zoning districts as conditional uses, subject to review and authorization by the City Planning Commission. The permitted floor area ratio in the RM-2 District is 1.8 to 1.

Under the building height and bulk ordinance, adopted in 1972 as Article 2.5 of the City Planning Code, the project site and all of the Marshal Hale Memorial Hospital site are in the 80-E height district (see Figure 15, p. 35). The maximum permitted building height in this district is 80 ft. Above 65 ft., the maximum permitted building length is 110 ft. and the maximum permitted diagonal dimension is 140 ft.

COMMUNITY CHARACTERISTICS

Children's Hospital is located in a commercial and multiple-family corridor bordered on the north and south by predominantly single-family dwellings. In the Presidio Heights census tract, bounded by California St., Arguello Blvd., the Presidio wall, and Lyon St., the 1970 census showed that 35% of the dwelling units were owner occupied. In the Jordan Park-Laurel Heights census tract, bounded by California St., Arguello and Geary Blvds., and Baker St., 25% of the dwelling units were owner-occupied.

The neighboring Presidio Heights is characterized by wide lots, two- and three-story homes in a variety of styles, gardens, and tree-lined streets. Many structures are noted in the 1976 Architectural Inventory (see Section III.C, p. 54) and represent the work of architects spanning three



HOUSE CHARACTER DISTRICTS

RH-1(D) ONE-FAMILY DETACHED DWELLING
RH-1 ONE-FAMILY DWELLING
RH-2 TWO-FAMILY DWELLING
RH-3 THREE-FAMILY DWELLING

MIXED HOUSE AND APARTMENT CHARACTER DISTRICTS

RM-1 ONE DWELLING UNIT PER 800 SQ. FT. OF LOT AREA

RM-2 ONE DWELLING UNIT PER 600 SQ. FT. OF LOT AREA

RESIDENTIAL-COMMERCIAL COMBINED DISTRICT

R-C-2 ONE DWELLING UNIT PER 600 SQ. FT.OF LOT AREA

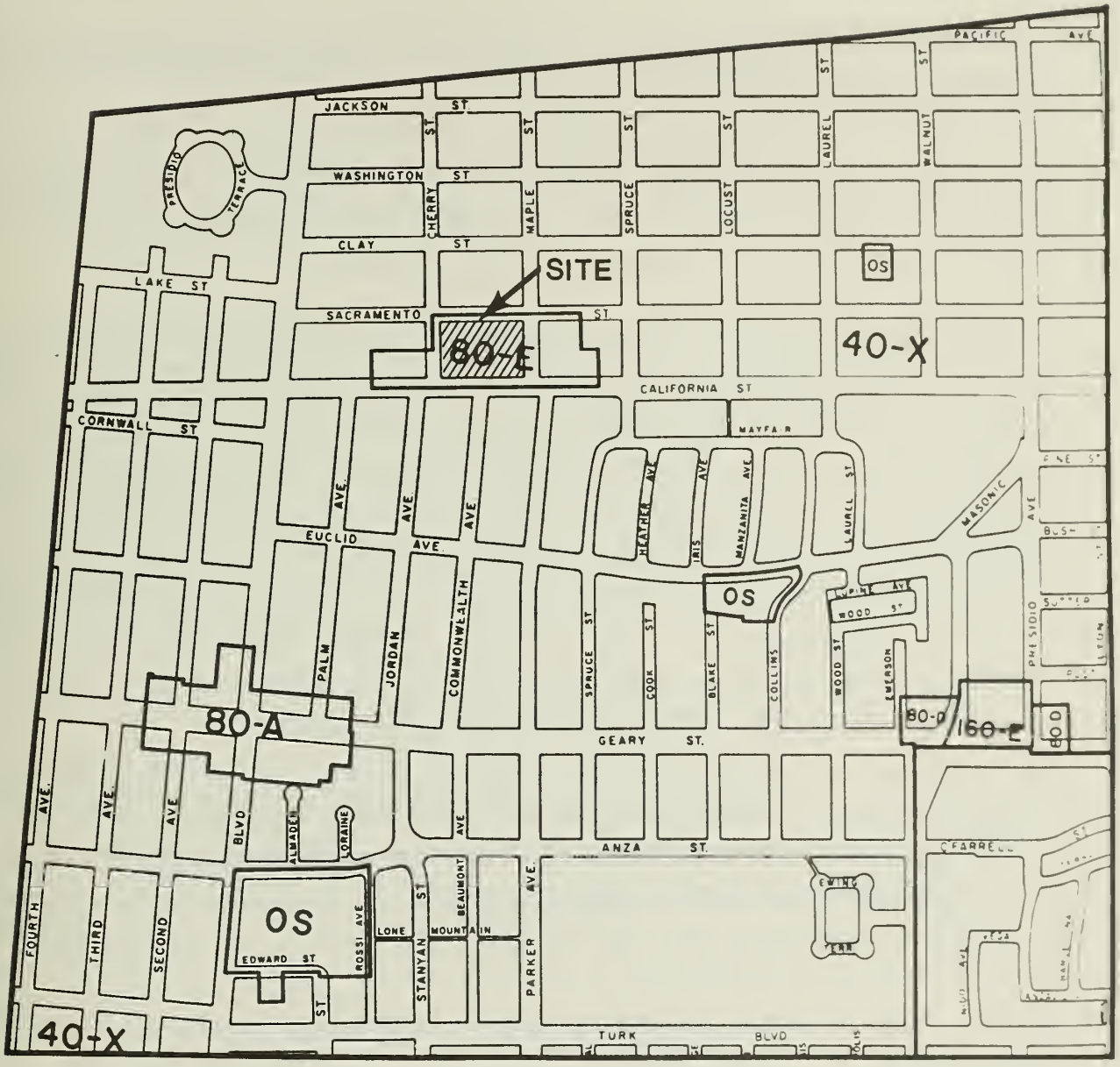
C-2 COMMUNITY BUSINESS

P PUBLIC USE

LEGEND

PROJECT SITE

FIGURE 14 EXISTING PLANNING CODE USE DISTRICTS ON THE SITE AND IN THE VICINITY



HEIGHT DISTRICT	HEIGHT ABOVE WHICH MAXIMUM DIMENSIONS APPLY	MAXIMUM BUILDING LENGTH	MAXIMUM DIAGONAL DIMENSION
OS	(Governed by Section 290 of the Planning Code)		
40-X	(Bulk limits not applicable)		
80-A	40	110	125
80-D	40	110	140
80-E	65	110	140
160-E	65	110	140

LEGEND

PROJECT SITE

FIGURE 15 EXISTING PLANNING CODE HEIGHT AND BULK DISTRICTS ON THE SITE AND IN THE THE VICINITY

generations. Twelve structures are described in Architecture in San Francisco and Northern California./2/

Jordan Park is predominantly single-family dwellings bordered by California St. and Geary Blvd. Laurel Heights is a newer neighborhood, dating from the late 30's and 40's, built on the site of the former Laurel Hill Cemetery.

The owner-occupied areas have homeowner groups which actively participate in community issues affecting the quality of living in the areas. These groups include the Presidio Heights Association of Neighborhoods, the Clay-Cherry Neighborhood Association, and the Sacramento-Arguello Neighborhood Association in the area north of California St. South of California St., the groups include the Jordan Park and Laurel Heights Improvement Associations. The Planning Association for the Richmond covers all of the Richmond District and includes the neighborhoods in the vicinity of Children's Hospital in its area of concern. Area merchants have organized into the Sacramento Street Association and the Laurel Village Merchants Association.

Representatives of these groups reviewed the Children's Hospital Master Plan and appeared before the City Planning Commission at its hearing of 9 June 1977. They expressed concern about the effects of then-proposed construction on Sacramento and Cherry Sts. and the associated traffic and parking impacts.

Early in 1978, an ad hoc Hospital-Neighborhood Steering Committee, including the presidents of the neighborhood and merchant associations, was formed to meet regularly and help revise the rebuilding program, review steps to alleviate parking, traffic, and transit problems, and keep all residents informed of these issues./3/ As a result, the plan discussed in this report has been revised from that presented in the Hospital Master Plan of 1977. The basic changes involve the relocation of the main entrance from Cherry St. to California St., and removal of the replacement building southward from Sacramento St. and locating an open plaza in its place at Sacramento and Cherry Sts. Steps to alleviate traffic and circulation problems have also been taken as described in Sections III.B, IV.B and V, pp. 37, 71 and 98.

Three general meetings open to all neighbors were held by the Hospital in October 1978. Over 2,000 notices were mailed by the Hospital to all known residents within the Geary, Arguello, Presidio, and Presidio Avenue area. The meetings provided an informal opportunity for concerned residents to be informed of the current status of the project and to question and comment upon it.

The administrators and the Board of Directors assert that it has been the intent of the Hospital to work with its neighbors to reach an understanding and acceptance of the modernization and replacement program and to develop a plan that would have a minimal adverse impact upon the project area. The concerns of the neighborhood groups, especially with respect to building placement and alleviation of on-street parking congestion, are reflected in project mitigation measures either adopted or under consideration by the Hospital (see Section V, p. 98).

FOOTNOTES - Land Use, Zoning, and Community Characteristics

/1/Larry Jacobsen, Educational Facilities Need Analyst, San Francisco Unified School District, telephone communication, 24 July 1978.

/2/ David Gebhard, Roger Montgomery, Robert Winter, John Woodbridge, Sally Woodbridge, 1973, A Guide to Architecture in San Francisco and Northern California, Peregrine Smith, Inc., Santa Barbara.

/3/ The Department of City Planning also has a representative on the committee who has attended all meetings.

B. TRAFFIC, CIRCULATION AND PARKING

Children's Hospital fronts on California St. which is designated a secondary thoroughfare and a transit preferential street in the Transportation Element of the Comprehensive Plan of San Francisco./1/ It is 85 ft. wide with two lanes in each direction, parallel parking lanes, and 15-ft. sidewalks. The No. 1 Sutter-California trolley bus, a radial route extending from Market St. to Lincoln Park, stops near the main Hospital entrance; the No. 55 Sacramento St. bus passes the site on the north.

Children's Hospital, with consultants Wilbur Smith and Associates, Inc., developed a Hospital Transportation Plan which is currently being implemented. The traffic and parking data which appear in this section have been drawn from that plan./2/ The data for that plan are based on surveys made in January 1978, which describe existing conditions for typical work days.

TRIP CHARACTERISTICS

In order to determine trip characteristics of employees, patients, and visitors, Wilbur Smith and Associates conducted two surveys: one of the employees and one of visitors-patients. The results show that total person trips to and from Children's Hospital on a typical weekday amount to approximately 2,640 round trips (see Table 2). The surveys also indicate that approximately 2,540 persons travel to Children's Hospital between 7:00 a.m. and 8:00 p.m. on a typical weekday, including 1,000 employees, students, and volunteers, 189 attending physicians, 610 visitors, 555 patients and persons accompanying patients, and 185 sales and service personnel./3/ In addition to these trips, 100 automobile trips are made by individuals making more than one trip to the Hospital.

On a typical weekday, the Hospital workforce of 1000 employees arrives in three shifts:

- Day Shift; 767 employees arriving between 5:00 a.m. and 1:00 p.m.
- P.M. Shift; 174 employees arriving between 1:00 p.m. and 6:00 p.m.
- Night Shift; 60 employees arriving between 9:00 p.m. and midnight.

The greatest number of employees arrive at the Hospital between 7:00 and 9:00 a.m. when 557 employees arrive. The next highest arrival period is between 3:00 and 4:00 p.m., when 117 employees arrive for the evening shift.

The heaviest departure hours occur between 3:38 and 4:37 p.m. when 338 employees leave, and between 4:38 and 5:37 p.m. when 167 leave. The next highest departure hour is between 11:38 p.m. and 12:38 a.m. when 115 employees leave the Hospital.

TABLE 2: TYPICAL DAILY PERSON TRIPS TO CHILDREN'S HOSPITAL

CLASSIFICATION	TYPICAL 24 HOUR WEEKDAY PERIOD; JANUARY 1978 ROUND TRIPS	PERCENT OF TOTAL
EMPLOYEE TRIPS		
Employee Commute Trips		
Staff Physicians	50	1.9
Nurses & Hospital Attendants	298	11.3
Other Clinical	173	6.6
Subtotal Clinical	521	19.8
Administrators	49	1.8
Clerical	205	7.8
Non-Clerical	140	5.3
Subtotal Support	394	14.9
Students - Volunteers	86	3.2
Total Employee Commute Trips	1001	37.9
Employee Midshift Auto Trips*	100	3.8
TOTAL EMPLOYEE TRIPS	1101	41.7
NON-EMPLOYEE TRIPS		
Patients & Out-Patients	555	21.0
Visitor Trips	610	23.1
Attending Physicians	189	7.2
Business Trips	185	7.0
TOTAL NON-EMPLOYEE TRIPS	1539	58.3
GRAND TOTAL	2640	100.0

*Employee midshift walking or transit trips were not counted.

SOURCE: Wilbur Smith and Associates, Transportation Element of the Children's Hospital Master Plan, May 1978, p. 9.

Visitors, patients, physicians, and others arrive at the Hospital in a more scattered pattern than do employees. The busiest arrival period is between 1:00 and 2:00 p.m., when 149 non-employees arrive. Except for a slump between 11:00 and noon, the arrival rate remains fairly constant at about 130 persons per hour between 8:00 a.m. and 3:00 p.m. Weekday arrival times for Hospital employees and others are shown in Table 3.

TABLE 3: TIME OF FIRST ARRIVAL OF TYPICAL WEEKDAY TRIPS TO CHILDREN'S HOSPITAL

ARRIVAL HOUR BEGINNING	TRIPS TO CHILDREN'S HOSPITAL					
	WORK FORCE*		OTHER**		TOTAL	
	No.	Percent	No.	Percent	No.	Percent
5 a.m.	12	(1.2)	-	-	12	(0.5)
6	85	(8.5)	-	-	85	(3.6)
7	311	(31.0)	46	(3.4)	357	(15.1)
8	246	(24.6)	138	(10.1)	384	(16.2)
9	55	(5.5)	132	(9.6)	187	(8.0)
10	19	(1.9)	133	(9.7)	152	(6.4)
11	20	(2.0)	105	(7.7)	125	(5.3)
12	19	(1.9)	132	(9.6)	151	(6.3)
1 p.m.	8	(0.8)	150	(10.9)	158	(6.6)
2	23	(2.3)	132	(9.6)	155	(6.5)
3	117	(11.7)	105	(7.7)	222	(9.4)
4	18	(1.8)	95	(6.9)	113	(4.8)
5	8	(0.8)	81	(5.9)	89	(3.7)
6	0	-	66	(4.8)	66	(2.8)
7	0	-	56	(4.1)	56	(2.3)
8	0	-	-	-	-	-
9	3	(0.3)	-	-	3	(0.1)
10	3	(0.3)	-	-	3	(0.1)
11	54	(5.4)	-	-	54	(2.3)
TOTAL	1001	(100.0)	1371	(100.0)	2372	(100.0)

*Includes employees, interns/residents, students and volunteers.
**Includes visitors, patients, attending physicians and business trips, but excludes 168 walking trips, mostly by workers from within the neighborhood visiting the cafeteria, and an estimated 100 second trips of individuals who arrive at the Hospital more than once a day. The survey of visitors and other nonemployees extends from 7:00 a.m. to 8:00 p.m.

SOURCE: Wilbur Smith and Associates, Transportation Element of the Children's Hospital Master Plan, May 1978, p. 14.

MODAL SPLIT

Most persons drive to the Hospital and some use public transit and other forms of transportation. Table 4 shows the use of various transportation modes for both employees and non-employees.

Among employees, the highest percentage of automobile drivers occurs during the p.m. shift when almost 75% drive. Fear of violence is a common reason given by p.m. and night shift employees for using cars. Free off-street parking and reduced transit service during these hours also encourage employee automobile use.

The automobile is also the most common mode of transportation for non-employee trips to the Hospital. Approximately 73% percent of non-employees arrive by automobiles, while 13% use public transit, and 14% use other modes.

PARKING

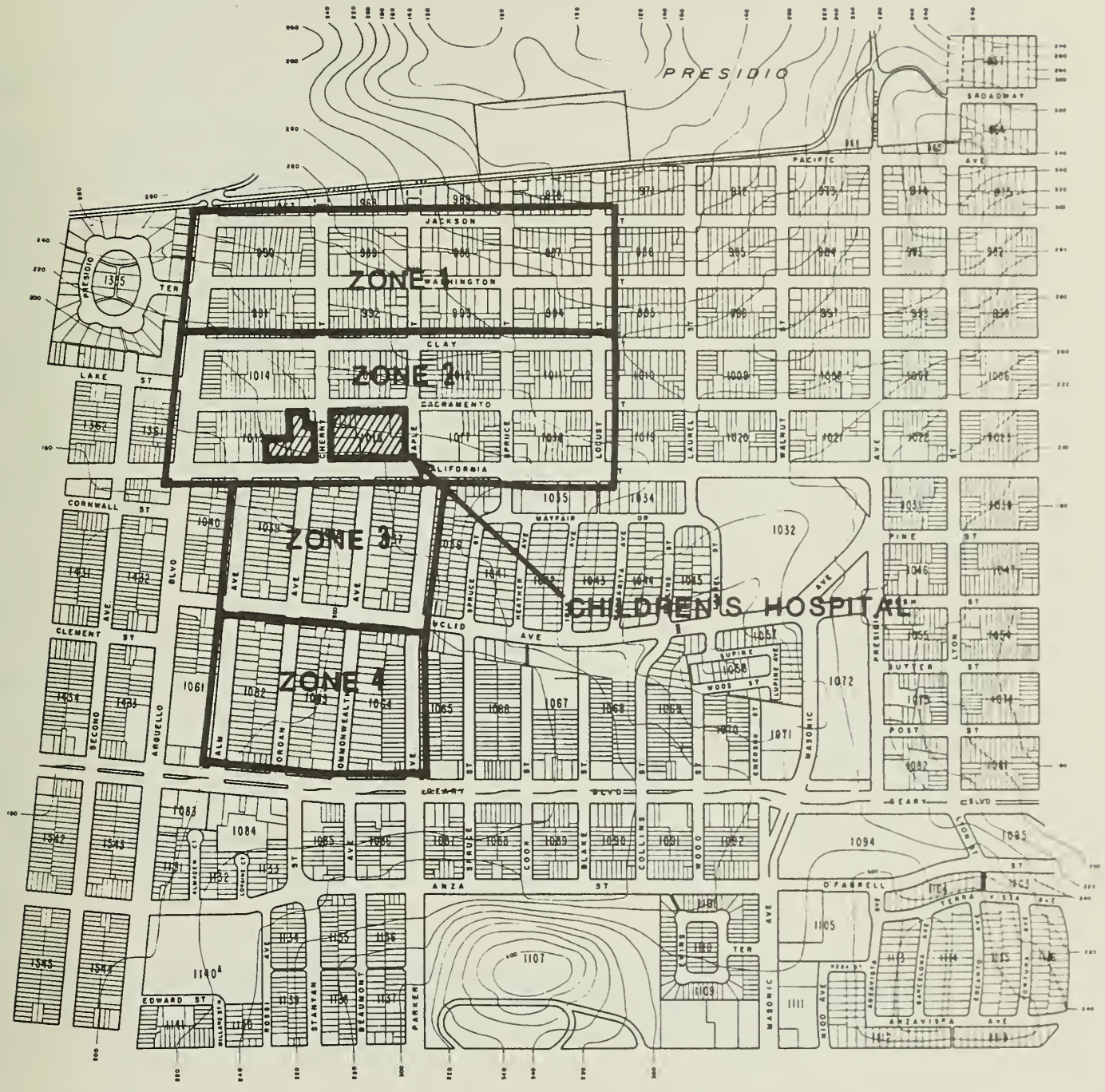
The transportation study for Children's Hospital by Wilbur Smith and Associates included a parking survey which examined the availability of parking in the area affected by the Hospital (see Figure 16, p. 43). An inventory of on-street parking shows more than 1600 spaces in the study area. Virtually all on-street spaces in Zones 1 and 3 are unregulated; all but 124 short-term or metered stalls and 16 restricted zones are unregulated in Zones 2 and 4. A detailed inventory of on-street parking in the study area is shown in Table 5, p. 44.

Included among on-street parking spaces are 87 spaces which abut the project site. These include 69 unregulated spaces; 10 white zone spaces (for passenger loading); three green zone spaces (10-minute limit); four yellow zone spaces (for trucks); and one taxi zone space.

TABLE 4: MODES OF TRAVEL TO CHILDREN'S HOSPITAL

	EMPLOYEES				NON-EMPLOYEES					
	DAY SHIFT	P.M. SHIFT	NIGHT SHIFT	SUB-TOTALS	ACCOM-PANYING PATIENT	VISITOR	ATTENDING PHYSICIAN	BUSINESS	SUB-TOTALS	TOTALS
Automobile										
Drivers	517	131	44	692	213	311	136	117	777	1,469
Passengers (or dropped off)	69	6	5	80	183	137	9	19	348	428
Subtotals	586	137	49	772	396	448	145	136	1,125	1,897
Public Transit	123	26	11	160	102	62	-	11	175	335
Other	58	11	-	69	45	90	38	34	207	276
No Response	-	-	-	-	36	37	24	15	112	112
TOTALS	767	174	60	1,001	579	637	207	196	1,619	2,620

SOURCE: Wilbur Smith and Associates, Transportation Element of the Children's Hospital Master Plan, May 1978, and telephone communication, 2 February 1979.



Source - Wilbur Smith and Associates

FIGURE 16 PARKING SURVEY AREA FOR CHILDREN'S HOSPITAL

TABLE 5: ON-STREET PARKING SPACES IN CHILDREN'S HOSPITAL STUDY AREA*

AVAILABLE PARKING SPACES	ZONE 1	2	3	4	TOTAL
Unregulated	485	461	290	254	1490
Regulated					
Signed					
1 Hour	0	22	0	2	24
Metered					
2 Hours	0	16	0	0	16
1 Hour	0	32	0	7	39
15 Minutes	0	1	0	2	3
Painted Curb					
Green	0	14	0	2	16
White	7	24	0	2	33
Subtotal	7	109	0	15	131
Total Legal Spaces	492	570	290	269	1621
Restricted					
Yellow Curb	0	5	0	0	5
Taxi	0	1	0	0	1
School Zone (No stopping 7:00 - 5:00)	0	10	0	0	10
Subtotal	0	16	0	0	16
GRAND TOTAL	492	586	290	269	1637

*See Figure 22, p. 66.

SOURCE: Wilbur Smith and Associates, Transportation Element of the Children's Hospital Master Plan, May 1978, p. 21.

The study area also includes 520 off-street parking spaces that are controlled by Children's Hospital, located as follows:

- Cherry and California Sts. (above ground structure)	
Public (including 3 handicapped, 3 cycles)	166
Physicians and Restricted	109
Subtotal	275
- 3838 California St. (underground structure; includes 4 restricted, 4 out of use)	199
- 3905 Sacramento St. (Surface lot)	34
- Maple St. (Surface lot)	9*
- Emergency Entrance	3
TOTAL	520

*These spaces would be lost due to the conversion of the Maple St. lot to a materials handling dock, but would be replaced by providing nine compact car stalls in the Cherry and California Sts. parking structure. This would be achieved by revising the exit gate area on Cherry St. and moving bicycle parking to an area which is inaccessible to automobiles, and by revising the access and egress area on California St. to create additional spaces.

On-street parking occupancy in each of the four zones of the study area is shown in Table 6. Data shown are for 1 p.m., the peak hour, 6 p.m., an hour when residents typically return home; and 9:30 p.m., an hour of predominantly residential parking demand. On-street parking spaces in Zones 2 and 3 are full at the peak hour. On-street parking is available in all zones at 6:00 p.m., although in Zone 2, availability is limited. On-street parking is available in Zone 1 throughout the day. On-street parking is available in all zones at 9:30 p.m.

Off-street parking occupancy in the parking areas controlled by Children's Hospital is also shown in Table 6. The highly visible Cherry St. parking garage is filled first. The underground garage at 3838 California St. almost always has available spaces. Peak off-street demand occurs during the 3:00 p.m. shift change.

On-street parking occupancy attributable to Children's Hospital is greatest at the 2:00-3:00 p.m. peak hour, when approximately 490 or 30% of the 1,637

TABLE 6: PERCENT OCCUPANCY OF ALL PARKING SPACES IN CHILDREN'S HOSPITAL STUDY AREA

	Survey Period Beginning at:* 1:00 p.m.	6:00 p.m.	9:30 p.m.
On-Street			
Zone 1	71%	47%	47%
2	98	86	78
3	104**	62	60
4	96	67	63
Off-Street			
Cherry St. Garage	81	65	34
3838 California St. Garage	44	24	NA***
3905 Sacramento St. Lot	40	43	26
Maple St. Lot	90	50	20
Emergency Entrance (Occupancy varies between 0 and 3)			

*Length of survey period is one-half hour for off-street parking; one-hour for on-street parking.
**Includes illegally parked vehicles.
***Garage closes at 8:00 p.m.

SOURCE: Wilbur Smith and Associates, Transportation Element of the Children's Hospital Master Plan, May 1978, pp. 27, 30-32.

parking spaces in the study area are occupied by employees, visitors or patients of the Hospital. On-street parking occupancy by trip purpose (in each of the four zones of the study area), at the 1:00 p.m. peak hour, is shown in Table 7. Hourly on-street parking occupancy for the overall study area is shown in Table 8, p. 48.

On the basis of the data shown in Tables 7 and 8 the following generalizations may be made:

- Between 1:00 and 2:00 p.m., Hospital employees may be expected to occupy about 30% of all legal parking spaces in Zones 2 and 3.

- During the 1:00 - 2:00 p.m. peak, Zone 3 shows the highest percentage of parked cars attributable to Children's Hospital, 43%; and Zone 2 has the second highest percentage with 36%.

TABLE 7: ON-STREET PARKING DEMAND BY TRIP PURPOSE IN CHILDREN'S HOSPITAL STUDY AREA

TRIP PURPOSE	PARKED VEHICLES BY TRIP PURPOSE AT 1:00 PM ON A TYPICAL WEEKDAY									
	Zone 1		Zone 2		Zone 3		Zone 4		TOTAL	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent
Generated by Children's Hospital Employees*	97	19.7	161	27.5	105	36.2	27	10.0	390	23.6
Visitors and Patients**	23	4.7	49	8.3	20	6.9	5	1.8	97	5.9
Subtotal	120	24.4	210	35.7	125	43.1	32	11.8	487	29.5
Non-Hospital Vehicles	229	46.5	366	62.4	176	60.7	225	83.6	996	60.3
TOTAL PARKED VEHICLES	349	70.9	576	98.3	301	103.8	258	95.9	1484	90.6
LEGAL PARKING SPACES***	492	100.0	570	97.2	290	100.0	269	100.0	1621	99.0
ALL PARKING SPACES	492	100.0	586	100.0	290	100.0	269	100.0	1637	100.0

*Includes interns, residents, students and volunteers
**Includes attending physicians, and sales and service persons.
***Does not include taxi, truck or school zones.

SOURCE: Wilbur Smith and Associates, Transportation Element of the Children's Hospital Master Plan, May 1978, p. 25.

TABLE 8: HOURLY ON-STREET PARKING DEMAND GENERATED BY CHILDREN'S HOSPITAL

HOUR BEGINNING	NUMBER OF VEHICLES PARKED ON A TYPICAL WEEKDAY		
	Visitor/Patient	Employee	Total
1 a.m.	-	4	4
2	-	3	3
3	-	3	3
4	-	3	3
5	-	14	14
6	-	72	72
7	8	255	263
8	27	360	387
9	47	380	427
10	60	386	446
11	60	389	449
Noon	83	400	483
1 p.m.	97	390	487
2	105	390	495
3	101	390	491
4	91	335	426
5	103	144	247
6	110	70	180
7	107	48	155
8	85	38	123
9	80	32	112
10	--*	31	--
11	--	33	--
Midnight	--	31	--

*Visitor-Patient survey covered the period from 7:00 a.m. to 8:00 p.m.

SOURCE: Wilbur Smith and Associates, Transportation Element of the Children's Hospital Master Plan, May 1978, p. 27.

- Zone 4 has a parking problem, but it is not caused by Children's Hospital.

- On-street parking demand generated by the Hospital peaks at 485 to 495 spaces - a level sustained from noon to between 3:00 and 4:00 p.m.

- During the 1:00 - 2:00 p.m. peak demand period, vehicles of Hospital employees constitute about 80% of the demand for on-street spaces.

- At 5:00 p.m. Hospital-generated demand for on-street parking drops to 50% from 100% at peak demand.

- Visitor and patient demand for on-street parking peaks between 6:00 - 7:00 p.m.

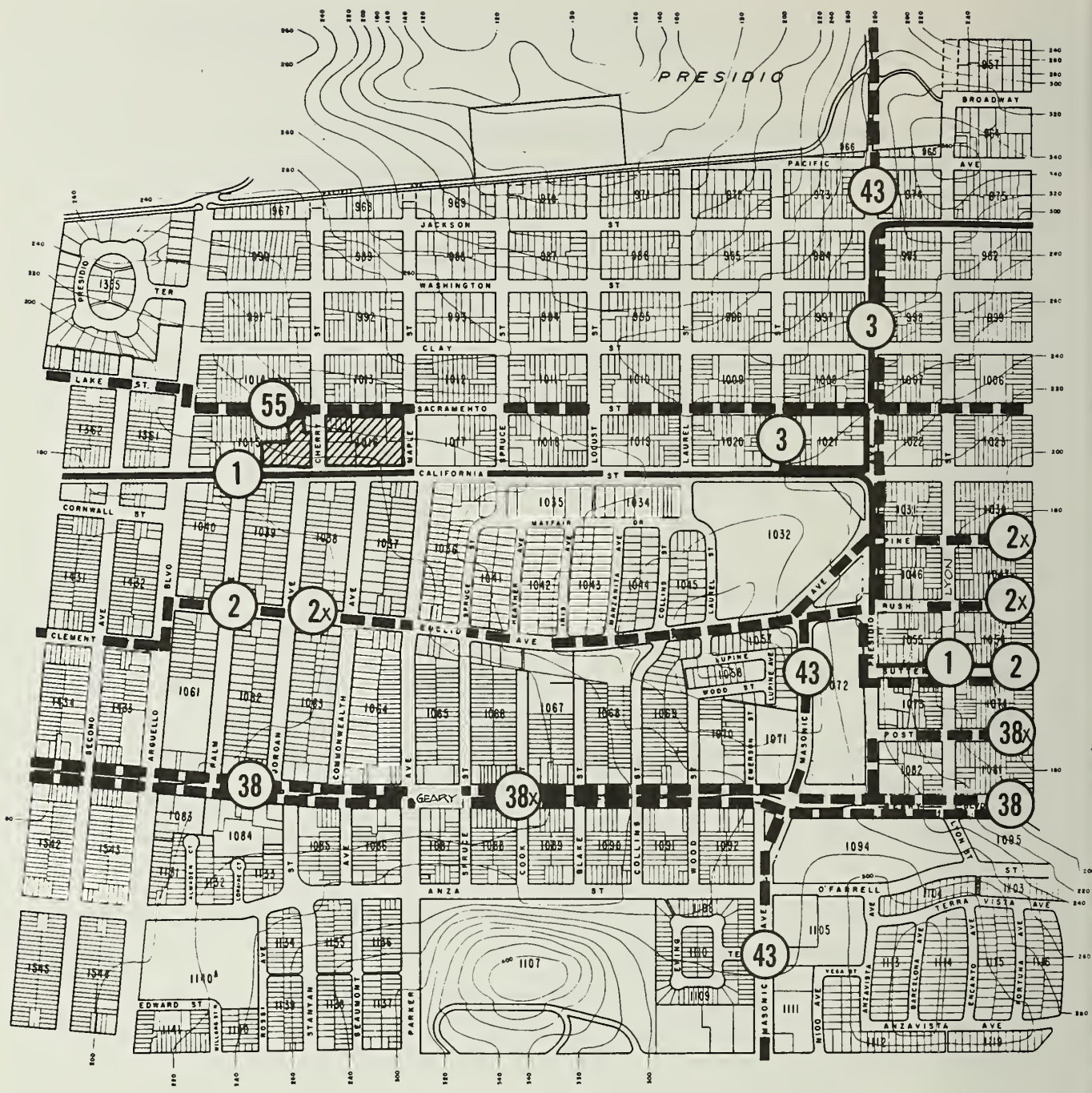
PUBLIC TRANSPORTATION

Approximately 16% of Children's Hospital employees use public transportation to go to work. For other trips to the Hospital, percentages using public transportation are approximately as follows: patients and persons accompanying patients, 20%; visitors, 11%; business, 6%; and attending physicians, 0.0%. The percentage of transit use for all trips is 12%.

Several east-west transit lines link the Hospital directly with Downtown, the Western Addition, and the Richmond district (see Figure 17). Typical weekday use of these lines for Hospital trips, is shown in Table 9, p. 51. At present, however, there are no north-south lines within a convenient walking distance of the Hospital. A transfer to one of the east-west lines is required for persons wishing to use public transit coming from north or south of the Hospital.

DELIVERY AND EMERGENCY TRIPS

Of the 40 daily delivery trips to the Hospital, approximately 25 are made by vans, nine by single unit trucks, six by autos, and an average of less than one per day by semi-tractor trailers. Most deliveries occur between 9:00 a.m.



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LEGEND

CHILDREN'S HOSPITAL

LEGEND

TROLLEY BUS LINES
MOTOR BUS LINES
X EXPRESS BUS LINES

FIGURE 17 PUBLIC TRANSIT ROUTES SERVING THE SI

TABLE 9: DAILY PERSON TRIPS TO CHILDREN'S HOSPITAL ON TRANSIT ROUTES SERVING THE HOSPITAL

LINE	Employees*	Patients	Visitors	Others**	TOTAL
#1 California	104	55	40	9	208
#55 Sacramento	37	49	22	1	109
#2 Clement	11	1	-	-	12
#38 Geary	3	3	-	-	6
#43 Roosevelt	2	-	1	-	3
Other MUNI	2	-	-	-	2
Unknown	1	-	3	2	6
TOTAL	160	108	66	12	346

*Includes interns, residents, students and volunteers.
**Business trips - sales and service personnel.

SOURCE: Wilbur Smith and Associates, Transportation Element of the Children's Hospital Master Plan, May 1978, p. 36.

and 3:00 p.m.; the peak hour is between 11:00 a.m. and noon when about seven deliveries occur. Approximately 81% of all truck and semi-tractor deliveries arrive via California St., 16% via Sacramento St., and 3% via Jordan Ave.

Ambulance trips occur on the average of one every two and one-half hours. Almost all ambulance trips are prearranged; few are emergency calls.

TRAFFIC

California St., the major street serving Children's Hospital, has an average daily traffic (ADT) volume of 19,000 vehicles. Next in volume is Arguello Blvd., the nearest major north-south street, with about 10,000 vehicles per day, followed by Sacramento St. with about 4,000 vehicles per day. Traffic volumes of other north-south streets in the area, at their intersections with California St., are 2,500 ADT on Jordan Ave., 2,200 ADT on Parker Ave., 1,550 ADT on Commonwealth Ave., and 1,200 on Palm Ave.

Streets serving Children's Hospital currently do not have a traffic problem; they all have a service level of "C", or better, which is the usual design standard (see Table 10 for a description of levels of traffic service)./4/ California St. in the vicinity of Children's Hospital has a capacity at Level "C" of approximately 25,000 ADT.

In a typical 24-hour weekday period, Children's Hospital generates approximately 1,470 two-way auto trips (see Table 4, p. 42). This traffic volume represents about 4% of the overall daily traffic volume of the streets that directly serve the Hospital.

FOOTNOTES - Traffic, Circulation, and Parking

/1/ The Comprehensive Plan of San Francisco, Transportation Element, 27 April 1972, City Planning Commission Resolution No. 6834, pp. 13 and 23. A secondary thoroughfare primarily serves as a collector for major thoroughfares, in some cases supplemental to the major thoroughfare system. A transit preferential street is one where priority is given to transit vehicles over automobiles.

/2/ Wilbur Smith and Associates, Transportation Element of the Children's Hospital Master Plan, May 1978. This report is available at the Department of City Planning, Office of Environmental Review.

/3/ Approximately 100 individuals make more than one daily trip to the Hospital.

/4/ Service Level "C" is 80% of theoretical capacity. For signalized intersections this means that only occasionally does a driver have to wait through more than one red light. Level "C" is further described as stable flow with acceptable delay.

TABLE 10: LEVELS OF TRAFFIC SERVICE

Level of Service A describes a condition of free flow, with low volumes and high speeds. Traffic density is low, with speeds controlled by driver desires, speed limits, and physical roadway conditions. There is little or no restriction in maneuverability due to the presence of other vehicles, and drivers can maintain their desired speeds with little or no delay.

Level of Service B is in the zone of stable flow, with operating speeds beginning to be restricted somewhat by traffic conditions. Drivers still have reasonable freedom to select their speed and lane of operation. Reductions in speed are not unreasonable, with a low probability of traffic flow being restricted. The lower limit (lowest speed, highest volume) of this level of service has been associated with service volumes used in the design of rural highways.

Level of Service C is still in the zone of stable flow, but speeds and maneuverability are more closely controlled by the higher volumes. Most of the drivers are restricted in their freedom to select their own speed, change lanes, or pass. A relatively satisfactory operating speed is still obtained, with service volumes perhaps suitable for urban practice.

Level of Service D approaches unstable flow, with tolerable operating speeds being maintained though considerably affected by changes in operating conditions. Fluctuations in volume and temporary restrictions to flow may cause substantial drops in operating speeds. Drivers have little freedom to maneuver, and comfort and convenience are low, but conditions can be tolerated for short periods of time.

Level of Service E cannot be described by speed alone, but represents operations at even lower operating speeds than in Level D, with volumes at or near the capacity of the highway. Flow is unstable, and there may be stoppages of momentary duration.

Level of Service F describes forced flow operation at low speeds, where volumes are below capacity. These conditions usually result from queues of vehicles backing up from a restriction downstream. The section under study will be servicing as a storage area during parts or all of the peak hour. Speeds are reduced substantially and stoppages may occur for short or long periods of time because of downstream congestion. In the extreme, both speed and volume can drop to zero.

SOURCE: Highway Capacity Manual, 1965, Highway Research Board Special Report 87, pp. 322-323.

C. URBAN DESIGN AND VISUAL ASPECTS

URBAN DESIGN CONTEXT

Children's Hospital, and the neighboring Marshal Hale Memorial Hospital, depart in scale from the local urban design pattern. The tallest of the Hospital structures, Buildings A and D, front on Sacramento St. These concrete buildings, completed in 1954 and 1966, are five and seven stories (52 ft. and 86 ft.) high, respectively (see Figure 18). In scale and design, they are different from the smaller, older, and more richly detailed brick Hospital structures, Buildings B and C, which front on California St. (see Figure 19, p. 56).

Other Hospital buildings and additions in the contiguous Hospital complex were completed in the 1960's, including the lowrise emergency facility on Cherry St., and additions to Buildings B and E (see Figure 20, p. 57).

These structures are smaller in scale than Buildings A, B, C, and D, and were designed with brick exteriors to complement the older Hospital buildings.

The woodframe buildings K, which front on Sacramento St. in the northwest corner of the site, are separate from the central Hospital complex. These buildings originally were multiple-family residences which were converted in the 1950's to house hospital functions. The buildings are consistent in scale and design with neighboring residential uses, and are a marked architectural contrast to other Hospital structures (see Figure 21, p. 58).

Because of the range in ages, styles, and sizes of existing buildings on the site, and because the Hospital complex was developed over several decades, no overall unifying design concept is now apparent.

SITE VISIBILITY

A number of buildings at Children's Hospital are larger than most residential structures which characterize the surrounding neighborhoods. The Hospital facilities are generally visable only from nearby locations due to the

FIGURE 18 CHILDREN'S HOSPITAL BUILDINGS D AND A,
WEST ON SACRAMENTO ST. FROM MAPLE ST.

BUILDING B, NORTH FROM COMMONWEALTH AVE.

BUILDING C, NORTHWEST FROM COMMONWEALTH AVE. AT CALIFORNIA ST.

FIGURE 19 CHILDREN'S HOSPITAL BUILDINGS B AND C

FIGURE 20 CHILDREN'S HOSPITAL EAST WINGS OF BUILDINGS B AND E, WEST FROM CALIFORNIA ST. AND PARKER AVE.

FIGURE 21 CHILDREN'S HOSPITAL, WOOD FRAME BUILDINGS (K) AT SOUTHEAST CORNER OF SACRAMENTO AND CHERRY STREETS.

relatively flat local topography, and the density of surrounding buildings. Prominent views of the Hospital are seen from the residences opposite the Hospital on Sacramento St. and California St. The Hospital is also partially visible for one or two blocks along several approaching streets, including Cherry, Maple, Sacramento and California Sts., and for two blocks along Jordan and Commonwealth Aves. The tops of some Hospital buildings are visible from the upper floors of scattered neighboring residences, particularly those immediately to the north of the Hospital in the Presidio Heights area.

D. CLIMATE AND AIR QUALITY

The climate of San Francisco is largely determined by the influence of the Pacific Ocean to the west and San Francisco Bay to the north and east, and is modified by local topographic features. Temperature variations are moderated by these two bodies of water, resulting in mild winters and cool, gray summers. Night and morning fog and low clouds, characteristic of marine climates, occur frequently in spring and summer. Northwesterly and westerly winds are the most frequent and strongest winds in San Francisco during all seasons. Wind speeds and frequencies are generally highest in summer.

Pollutant concentrations and violations of air quality standards in 1977 were markedly reduced over those in 1976 and 1975, but preliminary indications are that this trend did not continue in 1978. Annual variations are due to a combination of meteorological factors and pollutant emissions. Although emissions have been decreasing and are expected to continue to do so in the near future, adverse meteorological conditions have offset this in 1978. Violations of the ozone, carbon monoxide, nitrogen dioxide, and particulate standards have occurred.

Carbon monoxide levels at California St., the most heavily travelled street in the Hospital area, are estimated to reach 7.6 parts per million (ppm) for one hour, which is 22% of the 35 ppm one-hour standard; and 1 ppm for eight hours, which is 11% of the 9 ppm eight-hour standard./1/ These levels are lower than those measured at the monitoring station because the site is located upwind of the station in an area with less traffic.

Interior air quality reflects both exterior air conditions and the design of the air conditioning system used. Existing Children's Hospital air handling units have one filter, located on the intake side of the heating-cooling equipment. The efficiency of these filters in removing particulates from the air is 80% in patient areas but lower in various non-patient areas. The filters are not effective in removing gaseous pollutants and there is no recirculation of air within the building. Thus, changes in interior air quality with respect to gaseous pollutants are more dependent upon changes in exterior air quality than on interior activities. The air handling units are located on the roof and are vented three to four feet above roof level. The distance between intake and exhaust vents varies from 25 to 35 ft. (U.S. Department of Health, Education, and Welfare, Minimum Requirements for Hospitals and Medical Facilities specify a minimum distance of 25 ft./2/) A positive pressure of 0.01 in. of water is maintained in the building as a whole, while a positive pressure of 0.05-0.10 in. of water is maintained in sensitive (sterile) areas. In the latter case, the pressure prevents unfiltered air from infiltrating into these areas through cracks; in the former case the pressure is not sufficient to accomplish this.

FOOTNOTES - Climate and Air Quality

/1/ Carbon monoxide calculations were made for worst-case dispersion conditions according to BAAPCD (now BAAQMD), 1975, Guidelines for Air Quality Impact Analysis of Projects.

/2/ U.S. Department of Health, Education and Welfare (HEW), undated, Minimum Requirements for Hospitals and Medical Facilities.

E. NOISE

Average noise levels on-site are typical of urban environments and range from approximately 60 dBA to 70 dBA./1/ Noise is generated primarily by vehicular traffic and other human activities. Code 3 (siren and lights) ambulance trips, which arrive at the Hospital approximately one to two times per week, add an intrusive type of short-term, high intensity noise to background levels, resulting in momentary noise levels of approximately 110 dBA at a distance of 50 ft. Most ambulances turn off their sirens several blocks from the Hospital./2/

FOOTNOTES - Noise

/1/ dBA is the measure of sound in units of decibels (dB). The "A" denotes the A-weighted scale which simulates the response of the human ear to various frequencies of sound.

/2/ Dr. Leonard Blumin, Director of Emergency Services, Children's Hospital, telephone communication, 25 July 1978.

F. ENERGY

Pacific Gas and Electric Company (PG&E) provides electricity and natural gas for the Hospital. Children's Hospital maintains a supply of 5,000 gallons (700 million Btu)/1/ of diesel oil which is used to fuel boilers for steam heat during emergencies. The boilers consume up to 160 gallons (22 million Btu) per hour./2/ The Hospital is also equipped with two diesel-powered emergency generators capable of providing 750 kilovolt/amperes/3/ (KVA) and 219 KVA of electricity. They consume 60 and 30 gallons (7 and 4 million Btu) of diesel fuel per hour, respectively. The 5,000 gallons (700 million Btu) of emergency diesel oil would be sufficient to supply heat and electricity for approximately one day, at a consumption rate of 250 (160 + 60 + 30) gallons (35 million Btu) per hour.

All of Children's Hospital in Block 1016, the Medical Office Building at 3838 California St. in Block 1015, and Marshal Hale Memorial Hospital in Block 1017 presently share the two natural gas-fired boilers located at Children's Hospital; these provide steam heat for the three facilities. Existing natural gas consumption is 904,458 therms (90,400 million Btu) per year./4/ Children's Hospital has a high natural gas requirement because steam is used for heating large quantities of hot water used in the kitchen and laundry, and for sterilization. The older buildings and ventilation system also require natural gas heating to compensate for heat losses through the exterior walls of the buildings which are not insulated to current standards. The Public Utilities Commission has authorized nonresidential natural gas use for peak consumption days in excess of 300,000 cubic feet for the facilities.

Existing peak electrical demand for lighting and equipment operation at Children's Hospital is 978 kilowatts (KW) or 2.82 watts per sq. ft. The lighting and air circulation at the Hospital do not meet current State Health Services requirements,/5/ resulting in a lower electrical consumption per square foot than would be necessary to meet current standards. Annual consumption of electricity at the Hospital equals 6.1 million kilowatt-hours (KWH) (20,820 million Btu).

FOOTNOTES - Energy

/1/ A Btu is the quantity of heat required to raise the temperature of one pound of water one degree Fahrenheit at sea level. As used in this report, Btu indicates the British thermal units of heat used or required to provide energy at the task area, unless "at source" is specified.

/2/ W. Terry, Chief Engineer, Children's Hospital, personal communication, 21 July 1978.

/3/ A kilovolt-ampere, 1,000 volt-amperes, is a measure of the maximum carrying capacity of an electrical line, system or motor.

/4/ A therm is equivalent to 100,000 British thermal units (Btu).

/5/ California Administrative Code, Title 22, Section 70851.

G. GEOLOGY AND HYDROLOGY/1/

Children's Hospital is located at an elevation of about 250 ft. (mean sea level datum) on gently sloping topography with about a 12% grade. The site was graded to accommodate the existing buildings. At the site, a 10-ft. deposit of compacted fill was placed over 10 to 50 ft. of sands, silts and clays; these, in turn, rest upon bedrock./2/ The sediments could be easily excavated, although they are probably unstable in steeply cut slopes./3/ The area has a low potential for landsliding, and no landslides or other large-scale slope failures have occurred at the site./4/

No active earthquake faults are known to exist within the City of San Francisco. Thus, ground rupture probably would not occur at the site. However, earthquakes emanating from nearby active faults could have some effect. The Hospital is located about 5.5 miles northeast of the San Andreas

Fault, about 9 miles northeast of the Seal Cove Fault, about 13 miles southwest of the Hayward Fault, and about 26 miles west of the Calaveras Fault. It is probable that the Hospital buildings would be subject to the effects of a major earthquake and several smaller earthquakes during their lifetimes.

An 8.3 Richter magnitude/5/ earthquake in the Bay Area, similar to the 1906 San Francisco earthquake, would cause strong ground shaking at the site,/6/ damaging multi-storied structures in particular and injuring occupants.

The site is generally free of hazards from most secondary effects of earthquakes such as landsliding, subsidence (the rapid settling of compressible earth materials), and liquefaction (the rapid transformation of loose, saturated earth materials such as sand to a fluid state similar to quicksand)./7/

In 1973, the California Legislature adopted Senate Bill 519 (Title 17 of the California Administrative Code) to regulate the design, construction, reconstruction, alteration of, and addition to, any hospital building. The regulations require that hospital building frames be structurally capable of resisting the effects of earthquakes, and that building elements and equipment necessary for the complete functioning of a building be designed and constructed to withstand maximum earthquake ground motions without disrupting the necessary operations. Existing hospital buildings subject to extensive structural modification must meet Title 17 criteria, or they must be reconstructed to conform to those standards. Building B of Children's Hospital, the major building to be replaced, does not meet the minimum code requirements of Title 17. PMB Systems Engineering, Inc. conducted a structural analysis of the building in 1976 and found that structural modifications for Title 17 compliance would be so extensive as to warrant demolition and construction of a new building./8/ Subsequent meetings between Children's Hospital and Ellerbe, Architects/Engineers/Planners, its current structural engineer, and the Office of the State Architect and the Facilities Development Section of the California Department of Health, determined that Building B should be replaced./9/

There are no water courses, springs or other hydrologic features at the site. Surface runoff is discharged into a combined sanitary sewer and storm drain system. Because the site is almost completely occupied with buildings and impermeable surfacing, very little infiltration of rainwater into the soil occurs and almost all rainfall becomes runoff. The Hospital is not located in a flood prone area.

FOOTNOTES - Geology and Hydrology

/1/ Information in this section is based on a site analysis by Harding Lawson Associates, F. Rollo, Civil Engineer (Lic. P.E.18126), telephone communication, 18 July 1978.

/2/ D. Dobberman, Project Manager, Ellerbe, Architects/Engineers/Planners, letter communication, 12 July 1978. The letter is on file with the Department of City Planning, Office of Environmental Review.

/3/ Schlocker, J.; M.G. Bonilla, and D.H. Radbruch, 1958, Geology of the San Francisco North Quadrangle, California, Map I-272, Miscellaneous Geologic Investigations, U.S. Geological Survey, U.S.G.P.O., Washington, D.C., reprinted in 1974.

/4/ Radbruch, Dorothy H., and Carl M. Wentworth, 1971, Estimated Relative Abundance of Landslides in the San Francisco Bay Region, California, San Francisco Bay Region Environment and Resources Planning Study, Basic Data Contribution 11, U.S. Geological Survey and U.S. Department of Housing and Urban Development.

/5/ The Richter scale is a logarithmic scale developed by Charles Richter to measure earthquake magnitude by the energy released, as opposed to earthquake intensity as determined by effects on people, structures, and earth materials.

/6/ URS/John A. Blume and Associates, 1974, San Francisco Seismic Safety Investigation, Figure 3.

/7/ Ibid. Figures 4, 5, 7 and 10.

/8/ PMB Systems Engineering, Inc., 1976, Estimate of the Seismic Resistance Potential of Existing Facilities at Children's Hospital and Marshall Hale Hospital, San Francisco, 350 Sansome Street, San Francisco, pp. 283-351.

/9/ Letter from M. Neal Hardman, California Department of Health, March 21, 1978. The letter is on file at the Department of City Planning, Office of Environmental Review.

H. PLANTS AND WILDLIFE

Plants on the grounds of Children's Hospital include Lombardy poplar, London plane, pittosporum, Irish yew, eucalyptus, pine and pepper trees. Other landscape trees, shrubs, and grass are found in three courtyards, along the streets, and beside walls and sidewalks.

A mature Monterey pine dominates the grassy courtyard on California St. between Buildings B and C. Eight Lombardy poplars are planted in a line against the wood frame structures, forming the major part of the ivy-covered Sacramento St. courtyard. The central courtyard also contains Victorian box trees and a large olive tree, and provides shelter for common local birdlife. No rare or endangered plants or wildlife species have been reported or sited on the Hospital grounds.

I. CULTURAL AND HISTORIC ASPECTS

The project site has been used by Children's Hospital since 1887; it was then a sand-covered part of the Outside Lands west of the original City limits. The site has been determined by the Department of City Planning as having no known potential for archaeological finds./1/ All original buildings on the site have been replaced. Present buildings are not noted on the 1976 Architectural Inventory/2/ nor are they included in the official list of San Francisco landmarks.

A photographic record of Hospital buildings proposed to be replaced or modified would be maintained by the Hospital administration.

FOOTNOTES - Cultural and Historic Aspects

/1/ San Francisco Department of City Planning, undated, San Francisco Archaeological Sensitivity Map.

/2/ R. Hedman, San Francisco Department of City Planning, 21 July 1978, personal communication, and Map, 1976 Architectural Inventory.

J. COMMUNITY SERVICES AND UTILITIES

Police services are provided by the Richmond Police Station at 461 Sixth Ave./1/ Children's Hospital also maintains an internal safety and security force composed of 13 full-time employees./2/

The San Francisco Fire Department serves Children's Hospital from companies located at 655 Presidio Ave., 441-12th Ave., 1145 Stanyan St., and 2150 California St. (see Figure 22)./3/ Response time from the Presidio Ave. Station is no greater than 2-1/2 minutes./4/ The incidence of fires in the Hospital neighborhood is low compared with the City as a whole./3/

The internal fire protection system in the existing Children's Hospital buildings consists of wet- and dry-standpipe systems in all buildings and a sprinkler system in the basement, part of the ground floor, the elevator lobby and some rooms on all floors above the main entrance area./3/ Sufficient water is available from the San Francisco Water Department for all normal domestic uses./5/

Wastewater from Children's Hospital receives primary treatment at the Richmond-Sunset Water Pollution Control Plant in Golden Gate Park./6/ Wastewater projects are currently under design and construction to provide better treatment and reduce overflows.

Solid waste generated at Children's Hospital is collected and compacted by the Sunset Scavenger Corporation three times per week. Approximately 800 tons (3,900 cubic yards) of solid waste is produced annually./7/

FOOTNOTES - Community Services and Utilities

/1/ Officer P. Libert, Crime Analysis Unit, San Francisco Police Department, personal communication, 12 July 1978.

/2/ W. Verville, Director of Safety and Security, Children's Hospital, personal communication, 6 July 1978.

/3/ W. Graham, Acting Fire Marshal, San Francisco Fire Department, letter communication, 13 July 1978. This letter is on file at the Department of City Planning, Office of Environmental Review.

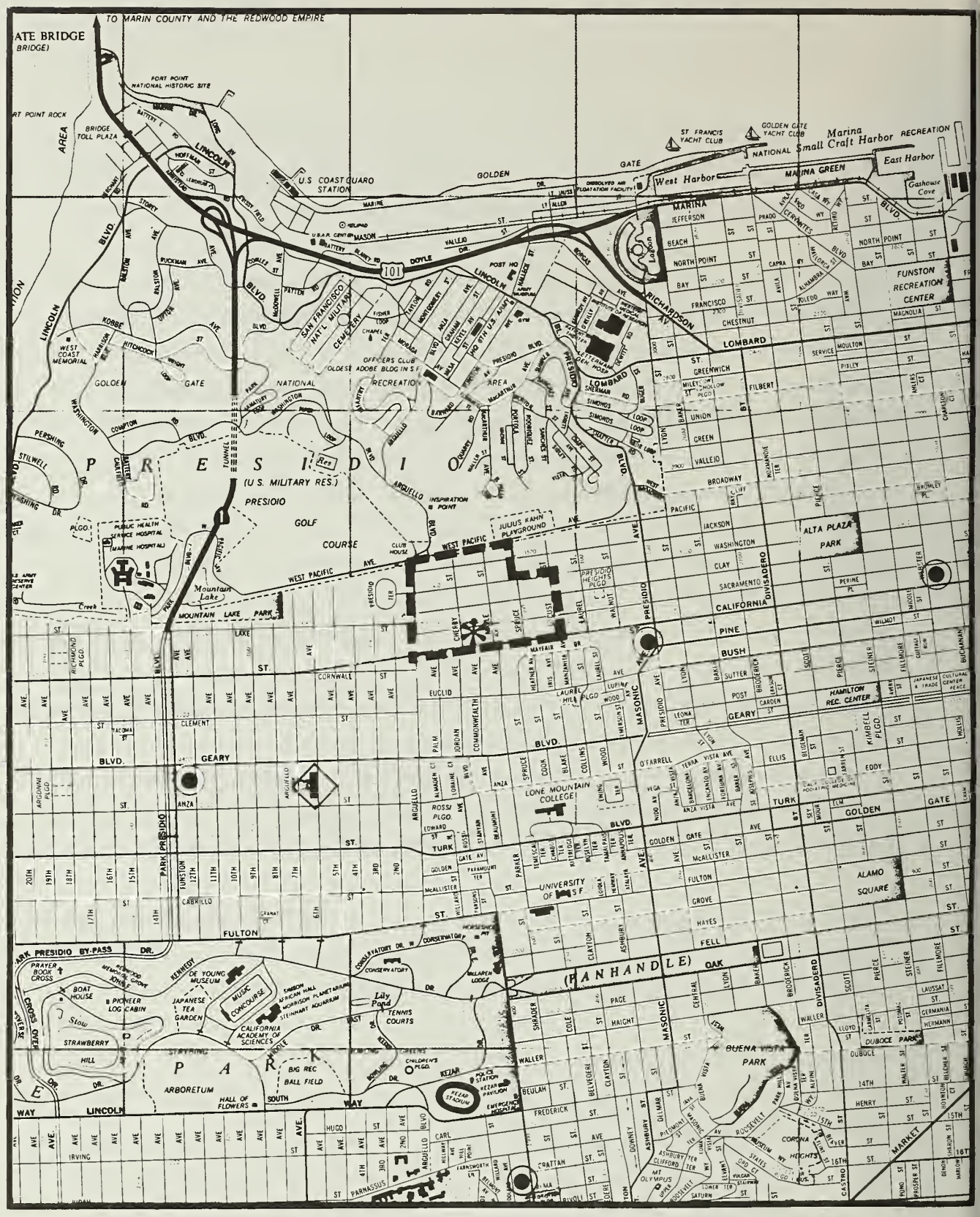

FIGURE 22 POLICE AND FIRE STATIONS SERVING THE PROJECT SITE

/4/ Captain Russell McKlem, San Francisco Fire Department, personal communication, 21 July 1978.

/5/ J. Kenck, Manager, City Distribution Division, San Francisco Water Department, letter communication, 12 July 1978. The letter is available at the Department of City Planning, Office of Environmental Review.

/6/ N. Lee, Bureau of Sanitary Engineering, personal communication, 21 July 1978.

/7/ W. Terry, Chief Engineer, Children's Hospital, personal communication, 5 July and 21 July 1978.

K. ECONOMIC ASPECTS

Children's Hospital employs about 1,250 full- and part-time professional and support personnel./1/ About 80% of these employees live in San Francisco. In addition the Hospital medical staff is comprised of 821 physicians, of whom 375 are active and associated staff members. The remainder are consulting and honorary members and use the facilities of Children's Hospital infrequently.

Children's Hospital maintains an affirmative action program in recruiting, hiring, and promoting.

Children's Hospital of San Francisco owns and leases two medical office buildings and two residential buildings adjacent to the Hospital site. These properties represent the only real estate owned by the Hospital which is assessed and taxed. Real property taxes paid by the Hospital for these properties totaled $188,948 in fiscal year 1977-78./2/

The Hospital also pays federal and state taxes on income derived from the office buildings, and a City tax of 15% on parking charges. Parking taxes paid to San Francisco for fiscal year 1977-78 totaled $15,563./3/

As stated in Section II, p. 14, the Hospital's current operating budget is $37 million. Of the Hospital patient-care revenues, 29% are derived from Medicare, 18% from Medi-Cal, 14% from Blue Cross, and 39% from other sources./4/

FOOTNOTES - Economic Aspects

/1/ W. Baker, Acting Director of Employee Relations, Children's Hospital of San Francisco, letter communication, 12 July 1978. The letter is available at the Department of City Planning, Office of Environmental Review.

/2/ Detailed information is on file at the Department of City Planning, Office of Environmental Review.

/3/ D. Wagner, Assistant Controller, Children's Hospital of San Francisco, telephone communication, July 24, 1978.

/4/ J. Klusky, Assistant Administrator of Finance, Children's Hospital of San Francisco, letter communication, July 20, 1978. The letter is available at the Department of City Planning, Office of Environmental Review.

IV. ENVIRONMENTAL IMPACTS

A. LAND USE, ZONING AND COMMUNITY ATTITUDES

LAND USE AND ZONING

The four-phase replacement and remodeling program of Children's Hospital would require no expansion beyond the existing site. No private properties or uses would be affected directly by the project. Existing landscaped areas would be retained except for the setback area at Building C; the court area west of Building A on Sacramento St. would be raised to sidewalk level and be redesigned, and the new main entrance area on California St. would be redesigned around the existing Monterey pine. The portion of the site at Sacramento and Cherry Sts., presently occupied by frame structures K (see Figure 2, p. 10), would become a landscaped plaza at street level atop the two-story parking structure, with a sculpture at the corner.

Replacement buildings H and J would comply with the height limits of the 80-E height district. Building H, measured at the midpoint of the Cherry St. facade, would be 80 ft. in height, excluding the rooftop mechanical facilities. On the California St. frontage the building height would be 92 ft., but this point of measurement can be waived by the provisions of Section 102.11(d) of the City Planning Code and the midpoint of the Cherry St. frontage may be used. Because of the sloping topography of the site,

Building H would be approximately 65 ft. above Sacramento St. Building J, which would replace the top four levels of existing Building B, would be the same height as existing Building B and would measure 79 ft. in height at its midpoint on California St. The upper four levels of the east and west wings, fronting California St. would be removed and replaced by landscaped roof plazas, thus reducing the height and the building mass at this mid-block location.

Buildings H and J would exceed the length limitations of the 80-E height district which restrict building lengths to 110 ft. above the 65-ft. elevation. Building H would be 198 ft. in length along the Cherry St. facade above and below the 65-ft. elevation and Building J would be 189 ft. long, the same length as the floors of Building B which it would replace. The length of the entire building mass, extending from Cherry St. eastward through the interconnecting Buildings H, J, and the east wing of Building E to Maple St., would be 408 ft./1/ The 110-ft. limitation could be waived by the City Planning Commission under the provisions of Section 271 of the City Planning Code in accordance with the procedures for Conditional Use approval set forth in Section 303 of the Code (see Section II.E., p. 20). The longest diagonal measurement of the combined buildings above the 65 ft. elevation would exceed the 140 ft. permitted by Section 270 of the City Planning Code: from the southwest corner of block 1016 at Cherry and California Sts. where Building H would be located to the northeast corner at Maple and Sacramento Sts. where Building D--the Outpatients and Research Building--is located, would be 478 ft./1/ For this computation, the 65 ft. elevation is measured from the midpoint of the new building mass on Cherry St.

Buildings H and J would have a floor area ratio of 4.3 to 1 based on the portion of the site occupied by them. The hospital complex as a whole, in relation to all of Assessor's Block 1016, would have a floor area ratio of 2.8 to 1. Approval of the requested Conditional Use by the City Planning Commission would also modify provisions of previous Conditional Use authorizations where appropriate and would authorize the planned floor area ratio of 3.4 to 1 on the portion of the site in an RM-2 classification and of 0 to 1 on the portion of the site in an RH-2 classification./2/ The RM-2 and

RH-2 zoning classifications permit a floor area ratio of 1.8 to 1, and hence a Conditional Use authorization would be required.

FOOTNOTES - Land Use, Zoning, and Community Attitudes

/1/ Murray Schromburg, Professional Associate, Ellerbe Architects/Engineers/ Planners, telephone communication, 11 September 1978

/2/ Computations of the Floor Area Ratios by Ellerbe Architects/Engineers/ Planners, dated 30 August 1978, are on file at the Department of City Planning, Office of Environmental Review.

B. TRAFFIC, CIRCULATION AND PARKING

CONSTRUCTION IMPACTS

The major traffic and circulation effects of project construction would result from truck traffic removing demolition and excavation debris, and delivering construction materials. It is estimated that these activities would involve a total of approximately 2,650 truck trips during the four-year construction period (see Table 11). During the two- to six-week periods of demolition and excavation at the beginning of each construction phase as many as 50 truck movements (arrivals and departures) could occur per day./1/ Other truck trips, primarily for delivery of materials, would be distributed more evenly throughout the four-year construction period; the number of these daily trips would probably not exceed four or five on peak delivery days.

This truck traffic would be confined locally to the segments of Cherry, Sacramento, Maple, and California Sts. that surround the Hospital. California St., Arguello Blvd, Geary Blvd. and their intersecting arterials, would provide the major arterial access to the site./2/ Construction traffic would diminish the carrying capacities of the affected streets, at least during periods of demolition and excavation discussed above, and would interfere with normal traffic operations. Normal traffic would also be impeded by lane closures or constrictions along California, Cherry, and Sacramento Sts. for a period of one to three weeks during demolition activities at the beginning of phases 2, 3 and 4, and possibly along California and Cherry Sts. by sewer

TABLE 11: CONSTRUCTION MATERIALS, QUANTITIES, AND TRUCK TRIPS FOR PROPOSED CHILDREN'S HOSPITAL CONSTRUCTION

		Number of Trips				
		Phase				
	QUANTITIES	1	2	3	4	Total
Demolition	10,193 cu. yds.	-	370	180	180	730
Excavation	14,300 cu. yds.	400	-	-	420	820
Backfill	500 cu. yds.	15	-	-	10	25
Concrete	8,100 cu. yds.	70	340	300	100	810
Reinforcing	500 tons	3	14	14	4	35
Mesh	145,000 sq. ft.	1	1	1	1	4
Structural Steel	1,770 tons	5	50	25	10	90
Aluminum Skin	61,000 sq. ft.	-	4	3	-	7
Glass		-	4	3	-	7
Partitions		15	20	15	-	50
Chillers, Fans		5	10	4	1	20
Pipe		10	15	3	2	30
Electrical		5	7	1	1	14
Roofing		-	4	2	-	6
	Total	529	839	551	729	2,648

connection work during phase 2. As many as ten on-street parking spaces abutting the project site might also be closed during these periods. Local on- and off-street parking availability would also be affected by parking demands of construction workers, who could require as many as fifty additional local parking spaces during periods of peak construction activity./2/

OPERATION IMPACTS

Project implementation would have several direct effects upon traffic, circulation and availability of local parking. Because the project would result in elimination of approximately 40 full-time, weekday jobs, it would reduce average daily vehicular traffic generation on streets serving the Hospital by about 55 trips, which is about 2% of the total number of trips./3/ Separation of emergency and service traffic would also reduce internal traffic congestion, and eliminate conflicts between emergency and delivery vehicles.

Provision of an additional 45 off-street parking spaces in the proposed parking garage, together with the proposed reduction in Hospital employment, would also help directly reduce demand for local on-street parking. It is estimated that in the hour of peak parking demand, 1:00-2:00 p.m., this reduction would amount to approximately 64 parking spaces./4/

FOOTNOTES - Traffic, Circulation, and Parking

/1/ J.E. Cahill, President, Cahill Construction Company, letter communication, 17 July 1978. The letter is on file at the Department of City Planning, Office of Environmental Review.

/2/ J.E. Cahill, President, Cahill Construction Company, personal communication, 28 July 1978.

/3/ Employee reduction = total round-trip reduction = 40
Total (one-way) trip reduction = 40 x 2 = 80
Percent employees who drive = 69% (see Table 4, p. 42)
Reduction in total auto trips = .69 x 80 = 55.2

/4/ Reduction in demand for on-street parking = new off-street parking provided by Hospital (45 spaces) + reduction in on-street parking required by employees driving to work (19 spaces) = 64 spaces. Wilbur Smith and Associates, Transportation Element of the Children's Hospital Master Plan, May 1978, p. 62.

C. URBAN DESIGN

URBAN DESIGN AND VISIBILITY

The proposed demolition and renovation of some Hospital facilities and the construction of new facilities would have a marked effect upon the appearance of Children's Hospital. Building mass at the California St. frontage would be reduced by removal of the top four floors of Building B and construction of a larger entrance courtyard in place of a portion of existing Building C. Building mass at the Sacramento St. frontage would also be reduced by demolition of the existing woodframe structures and construction of the underground parking structure. At the Cherry St. frontage, however, building mass would be increased by approximately 80% with the construction of proposed Building H (see Figure 23).

Construction of Building J would connect Building H with Buildings E and A. This design would visually help unify and integrate the overall design of the Hospital complex.

Proposed exterior colors and textures of the new construction are intended to unify the overall design of the Hospital by being consistent with existing colors and tones. Anticipated exterior colors would be in a brown and tan range similar to that of the existing brick buildings. The bay window motif building facade was designed to blend with local, residential architecture (see Figure 23)./1/

Landscaping along publicly accessible frontages would be increased by construction of a larger entrance courtyard, in place of a portion of existing Building C, and by the building of a plaza at street level on Sacramento St. above the proposed underground parking structure. A landscaped rooftop plaza for Hospital patients, employees, visitors and physicians would also be constructed on the roof of Building B.

No buildings included in the 1976 Architectural Inventory, no designated landmarks and no historically significant structures would be demolished by the project.

FIGURE 23 ARCHITECTURAL MODEL
OF PROPOSED PROJECT

Construction of the proposed improvements would not alter the general off-site area from which Hospital facilities would be visible. However, the construction of Building H would introduce a prominent visual element at the southwest corner of the site and along the Cherry St. frontage, while removal of the top floors of Building B and construction of Building J would set back the major south facade of the Hospital from the California St. frontage.

SUNLIGHT AND SHADOW PATTERNS

The effects of the proposed project upon off-site light and shadow patterns would be most pronounced on portions of Sacramento and Cherry Sts. adjacent to new construction. In general, shadows cast onto Sacramento St. immediately east of its intersection with Cherry St. would be reduced or eliminated due to demolition of the existing three- and four-story woodframe structures and their replacement by the proposed parking and plaza facility. For a few weeks in late fall and early winter shadows cast by the proposed Building H would

reach Sacramento St. (see Figure 24a, p. 77); at no time would these shadows completely cross the street. Shadows cast by existing Buildings A and D, however, would continue to shade Sacramento St. and portions of residences opposite the Hospital for much of the day throughout fall and winter months (see Figures 24a through d, p. 77).

Shadows cast into Cherry St. by the proposed Building H would generally be longer than those cast by present Hospital facilities during morning hours throughout the year (see Figures 24b, e, and f, p. 77). These longer shadows would reach the existing apartment building at the southwest corner of Cherry and Sacramento Sts. for varying lengths of time during early morning hours throughout much of the year. No other structures outside the project site, except for the existing Cherry St. parking garage (Building G) and Cherry St. itself, would be affected by shadows cast by the project.

Within the project site, the proposed publicly accessible plaza on the northwest portion of the site would be at least partly shaded by the existing Building A during morning hours throughout the year (see Figures 24b, e, and f, p. 77), and at least partly by the proposed Building H during late morning and afternoon hours throughout fall and winter months (see Figures 24a and c, p 77). During sunny afternoons in spring and summer months, the plaza would be mostly in sun. The private rooftop plazas proposed for Building B would be shaded during late afternoon hours throughout the year (see Figures 24a through e, p. 77).

RELATIONSHIP OF PROJECT TO COMPREHENSIVE PLAN OF SAN FRANCISCO

The relationships of the urban design effects described above in this section to the applicable policies of the Urban Design Element of the Comprehensive Plan of the City and County of San Francisco are described in Table 12, pp. 78-79.

FOOTNOTE - Urban Design and Visual Aspects

/1/ D. Dobberman, Project Manager, Ellerbe, Architects/Engineers/Planners, letter communication, 12 July 1978. The letter is on file at the Department of City Planning, Office of Environmental Review.

a. Winter Solstice/Midday

b. Spring and Fall Equinox/ 8 a.m.

c. Spring and Fall Equinox/ Midday

d. Spring and Fall Equinox/ 4 p.m.

e. Summer Solstice/8 a.m.

f. Winter Solstice/8 a.m.

NOTE: All times shown are solar times.

FIGURE 24 PROJECTED SUNLIGHT AND SHADOW PATTERNS FROM THE PROPOSED PROJECT

TABLE 12: RELATIONSHIP BETWEEN APPLICABLE URBAN DESIGN POLICIES OF THE SAN FRANCISCO COMPREHENSIVE PLAN AND THE PROPOSED PROJECT*

APPLICABLE URBAN DESIGN POLICIES	RELATIONSHIP OF PROJECT TO APPLICABLE POLICIES
Policies for City Pattern	
1. Policy 5. Emphasize the special nature of each district through distinctive landscaping and other features (p. 12).	A detailed project landscaping plan has not yet been developed. However, publicly accessible landscaped areas would be increased by the installation of a plaza at Sacramento and Cherry Sts. and an entrance courtyard on California St. The choice of exterior finishes, colors, and the bay window motif is intended to blend with existing architecture of the Hospital and the neighborhood.
Policies for Conservation	
2. Policy 4. Promote the preservation of buildings ... that provide continuity with past development (p. 25).	The project would demolish Building C, built in 1914 (see Figure 17, p. 50); the top four floors of Building B, also built in 1914 (see Figure 17, p. 50), and several woodframe residential structures, probably built about 1915 (see Figure 19, p. 56. None are considered historic or architecturally special.
3. Policy 5. Use care in remodeling of older buildings, in order to enhance rather than weaken the original character of such buildings (p. 25).	The removal of all but the ground floor of Building B would weaken its design character. According to project construction consultants, present seismic design requirements physically preclude duplication of the existing structure.**
4. Policy 6. Respect the character of older development nearby in the design of new buildings (p. 25).	New construction would repeat the colors and textures of the existing brick Hospital buildings. The proposed facade design is intended to complement the bay window motif prevalent in the neighborhood).***
Major New Development	
5. Policy 1. Promote harmony in the visual relationships and transitions between new and older buildings (p. 36).	See Item 4 above.

TABLE 12, continued

6. Policy 5. Relate the heights of buildings to ... the height and character of existing development (p. 36).	The reduction in height of Building B to one story would make it lower than the other 3- and 4-story buildings fronting on California St. and other buildings that would occupy the project site. The tallest part of Building H would be at the corner of Cherry and California Sts., opposite the comparably scaled Hospital parking garage (Building G), and removed from any nearby small-scale, single-family residences.
7. Policy 6. Relate the bulk of buildings to the prevailing scale of development to avoid an overwhelming or dominating appearance in new construction (p. 37).	See also Item 6 above. New Buildings H and J would dominate residential buildings in the vicinity, and would exceed the bulk limits established by the City Planning Code. They would be comparable to existing Hospital Buildings A, D, and G.
Neighborhood Development	
8. Policy 4. Design walkways and parking facilities to minimize danger to pedestrians (p. 55).	Emergency and service traffic would have separate entrances and would continue to load and unload in the interior of the site. Future plans would provide for an underground pedestrian connection under Cherry St. to Building F and under Maple St. to Marshal Hale Hospital.
9. Policy 12. Install, promote and maintain landscaping in public and and private areas (p. 57).	See also Item 1 above. The pine tree at the Hospital entrance would be preserved, if feasible, but the poplar trees and other landscaping in the existing courtyard on Sacramento St. would be removed. The proposed parking plaza, entrance courtyard and roof top plazas on Building B would be landscaped. Landscaping plans are not yet available.
10. Policy 14. Remove and obscure distracting and cluttering elements (p. 57).	The proposed parking garage would be underground and concealed by a roof top plaza.

*City and County of San Francisco, The Urban Design Element of the Comprehensive Plan, 1971. Page references are shown in parentheses.
**J.E. Cahill, President, Cahill Construction Company, letter communication, 14 July 1978.
***D. Dobberman, Project Manager, Ellerbe, Architects/Engineers/Planners, letter communication, 12 July 1978.

D. CLIMATE AND AIR QUALITY

Two types of air quality impacts would result from the proposed project: short-term construction impacts including particulate and hydrocarbon emissions, and long-term vehicle-related impacts, including reductions of carbon monoxide emissions.

Demolition, grading, and construction activities would affect local air quality for approximately 3.5 years. Construction activities would generate approximately 1.2 tons of particulates (dust) per acre per month of activity./1/ This includes emissions from land clearing, excavation and earth moving, traffic on unpaved surfaces, wind erosion, and construction. A worst-case outdoor 24-hour average concentration of approximately 5,100 ug/m^3 (micrograms per cubic meter) could result at and adjacent to the site, which is 51 times the 24-hour State standard of 100 ug/m^3. The eight-hour concentration would be on the order of three times the 24-hour concentration; no standard has been established for 8-hour particulate concentrations. Except for people with respiratory problems, large-size construction particulates are a nuisance more than a hazard, and settle out of the atmosphere rapidly with increasing distance from the source. This is in contrast with smaller size particulates from combustion and with gaseous pollutants.

Pouring asphalt and using oil-based paints would generate hydrocarbon emissions. The amounts of these types of emissions are controlled by Regulations 3 and 9 respectively of the BAAQMD./2/ Diesel-powered construction equipment would emit (in decreasing order by weight) nitrogen oxides, carbon monoxide, sulfur oxides, hydrocarbons, and particulates./3/ The expected amounts of these pollutants that would be generated, combined with background levels, would not exceed the State and Federal standards for NO_x, CO, SO_x, HC and particulates.

Interior air quality might be degraded during remodeling and new construction activities, although the extent of degradation is difficult to quantify. Particulates would be of greatest concern, due to their high outdoor concentration (relative to the standard and to other pollutants) resulting

from construction activities. If the existing building materials contain asbestos, it would be included in the particulate emissions generated by demolition and remodeling. Particulates from new construction might enter intake air vents on roofs; if they do, more than 20% would pass through the filter and circulate through the buildings. Particulates from remodeling areas could also escape to other parts of the buildings.

Long-term air quality impacts would result primarily from vehicular emissions. Traffic generated by the Hospital is predicted to decrease by approximately 2%, due to reduction of employees and the elimination of laundry facilities./4/ This would reduce the amount of pollutants generated, and decrease local accumulations during adverse meteorological conditions.

Long-term interior air quality in the remodeled areas and in the new facilities should be better than at present. New or improved air-handling units would be installed in these areas, and 50 to 60% recirculation of air would occur. Fresh air would be blended with recirculated air in a mixing box, and would then pass through a first-stage filter with 25% minimum efficiency, then through heating/cooling equipment, a fan, and a second filter with 90% minimum efficiency. Intake and exhaust vents on the roof would be at least 40 ft. apart where possible, and a minimum of 25 ft. apart.

Persons using the open plaza proposed for the northwest corner of the block may experience an uncomfortable degree of wind and chill because of exposure to the west and northwest winds which prevail up to 40% of the time. The plaza would be shaded during morning hours throughout the year, and partially shaded during late morning and afternoon hours during fall and winter months (see Section IV.C. p. 78).

FOOTNOTES - Meteorology and Air Quality

/1/ U.S. Environmental Protection Agency, 1975, Compilation of Air Pollutant Emission Factors, Supplement #5, p. 11.2.4-1.

/2/ Bay Area Air Quality Management District, Regulation 3, Regulating Reactive Organic Gas Emissions, adopted 4 January 1967; and Regulation 9, Rule for Architectural Coatings, adopted 1 March 1978.

/3/ U.S. EPA, 1975, Compilation of Air Pollutant Emission Factors, Supplement #4, p. 3.2.7.-2,-3.

/4/ Wilbur Smith and Associates, Transportation Element of the Children's Hospital Master Plan, May 1978.

E. NOISE

There would be three types of noise impacts associated with the project: the effect of construction noise on the Hospital and neighbors; the effect of the existing noise environment on the projected use; and the effect of noise generated by the projected use upon neighbors.

Construction noise associated with demolition, site preparation, construction of new structures, and renovation of existing structures, would be temporary. Noise impacts would be experienced in varying degrees over a period of approximately four years.

Typical noise levels associated with various construction activities are shown in Table 13. Actual noise levels resulting from some of these activities may be lower, since they would be regulated by the San Francisco Noise Ordinance 274-72 which requires that all powered construction equipment, except impact tools and equipment, create not more than 80 dBA at a distance of 100 feet. Impact tools and equipment, including pavement breakers, jackhammers, and pile-drivers, must have both intakes and exhausts muffled to the satisfaction of the Director of Public Works. The Ordinance further requires a special permit for construction between 8 p.m. and 7 a.m. All construction operations would have to satisfy these requirements. The Bureau of Building Inspection is responsible for enforcement; it responds to complaints but does not monitor construction sites. Pile driving for foundations would not occur as part of this project.

Noise levels decrease by six dBA with each doubling of distance from the source, and by a greater amount if intervening barriers are present. Building walls reduce interior noise levels by 20 dBA with closed windows and by 15 dBA if windows are open. Therefore, based on a maximum permitted level of 80 dBA at 100 feet, peak noise levels of up to 80 dBA would occur in patient rooms

immediately adjacent to construction activity./1/ Noise levels would decrease rapidly in other areas of the Hospital as distance and the number of intervening barriers increase.

The maximum interior noise level compatible with Hospital use (based on interference with patients' sleep) is 45 dBA./2/ However, most of the patients at the Hospital are located in the east wings, away from the areas of construction activity. The only patients located in the west wings (near construction activity) are healthy obstetrics cases with a short occupancy time. In addition, most patients do not sleep much during the daytime, except for those sedated, so sleep interference would not be a problem so long as construction activity does not occur at night./3/

In sum, it is not expected that patients' recovery would be affected by construction noise. Some patients would be disturbed beyond minor annoyance; they would be routinely placed in quiet areas remote from contruction activity.

Occupants of other buildings within 100 feet of construction activity would experience annoying noise levels (greater than 60 dBA).

TABLE 13: TYPICAL CONSTRUCTION-RELATED NOISE LEVELS

Construction Phase	Exterior Noise Level at 50 Feet	Distance at which Interior Conversations are Impaired (greater than 60 dBA)	
		With Windows Open	With Windows Closed
Truck hauling	91	353 ft.	185 ft.
Ground clearing	84	150	85
Excavation	89	270	150
Foundations	78	75	35
Erection	87	170	95
Finishing	89	270	150

NOTE: Noise from point sources decreases by 6 dBA with every doubling of distance from the source.

SOURCE: Bolt, Beranek, and Newman, 1971, Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances, U.S. Environmental Protection Agency.

IV. ENVIRONMENTAL IMPACTS

Upon completion of the project, existing external noise levels, primarily from traffic, would continue to affect the Hospital. These exterior noise levels would result in interior levels of 40 to 50 dBA which would warrant inclusion of noise insulation features in the design of the project to limit interior noise to 45 dBA./2/

Operation of the project would not affect exterior noise levels. Hospital-related vehicular traffic is projected to decrease by two percent. This would not cause a noticeable difference in ambient noise levels. The number and frequency of Code 3 (siren-on) ambulance trips are not expected to change as a result of the project.

Because pile driving for new construction would not occur and demolition of structures attached to patient areas would be performed with pneumatic tools rather than with a wrecking ball, vibration is not expected to be of concern to hospital patients.

FOOTNOTES - Noise

/1/ Assuming a distance of ten feet with one intervening wall.

/2/ San Francisco Comprehensive Plan, Environmental Protection Element, p. 19, adopted 19 September 1974, City Planning Commission Resolution No. 7020.

/3/ Dr. H. Griffeath, Chairman, Department of Medicine, Children's Hospital, telephone communication, 22 November 1978.

F. ENERGY

CONSTRUCTION IMPACTS

Construction activities would be expected to consume an estimated 2,500 million British thermal units (Btu) of nonrenewable energy resources./1/ A summary of this projected construction energy is shown below:

		Btu/2/
Electricity	46,500 KWH/1/	159 million
Diesel	8,100 gallons/1/	1,134 million
Gasoline	9,000 gallons/1/	1,188 million
		2,481 million

OPERATION IMPACTS

Operation of Children's hospital after completion of the proposed project would change energy consumption patterns in three ways:/3/ (1) electrical consumption would increase; (2) natural gas consumption would decrease; and (3) the emergency electrical power supply would be increased. A major change in energy use would result from removal of the laundry from the Hospital.

The Hospital is connected to two PG&E 1,500 KVA (approximately 1,260 KW) tranformers which can accommodate a peak load of 3,000 KVA (approximately 2,520 KW). (KVA is a unit for instantaneous demand, and KW can be estimated by multiplying by a factor of 0.84.) However, the connected kilowatt load may be more appropriately considered to be equal to the anticipated peak demand of 1,365 kilowatts. An estimated average 830,300 KWH (2.830 million Btu) of electricity would be consumed each month by the Hospital after completion of Phase II. This equals 2.32 KWH per sq. ft. per month. This is an increase in annual electrical consumption from 6.1 million KWH (20,820 million Btu) to approximately 10 million KWH (34,000 million Btu). Electrical consumption per sq. ft. would increase from 2.82 watts to 3.81 watts to comply with current lighting standards, thereby increasing peak loading. The anticipated daily and annual electric load distribution curves are shown in Figures 25 and 26. Removal of the laundry from the Hospital would decrease electrical usage by 45 KWH (154,000 Btu) per day on 261 weekdays of operation.

Annual natural gas consumption would be reduced by the project from 904,500 to 819,000 therms (90,400 to 81,900 million Btu) per year because the laundry would be removed, eliminating natural gas drying (35,745 therms (3,500 million Btu) per year) and use of steam and hot water (49,694 therms (4,970 million Btu) per year). Natural gas usage would be decreased by 327 (33 million Btu) therms per day on the 261 weekdays of operation. Natural gas would be consumed at a rate of 0.00391 therms (391 Btu) per sq. ft. per day. The proposed increase of 2% in floor area would probably be balanced by the more efficient insulation that would be installed in the new buildings.

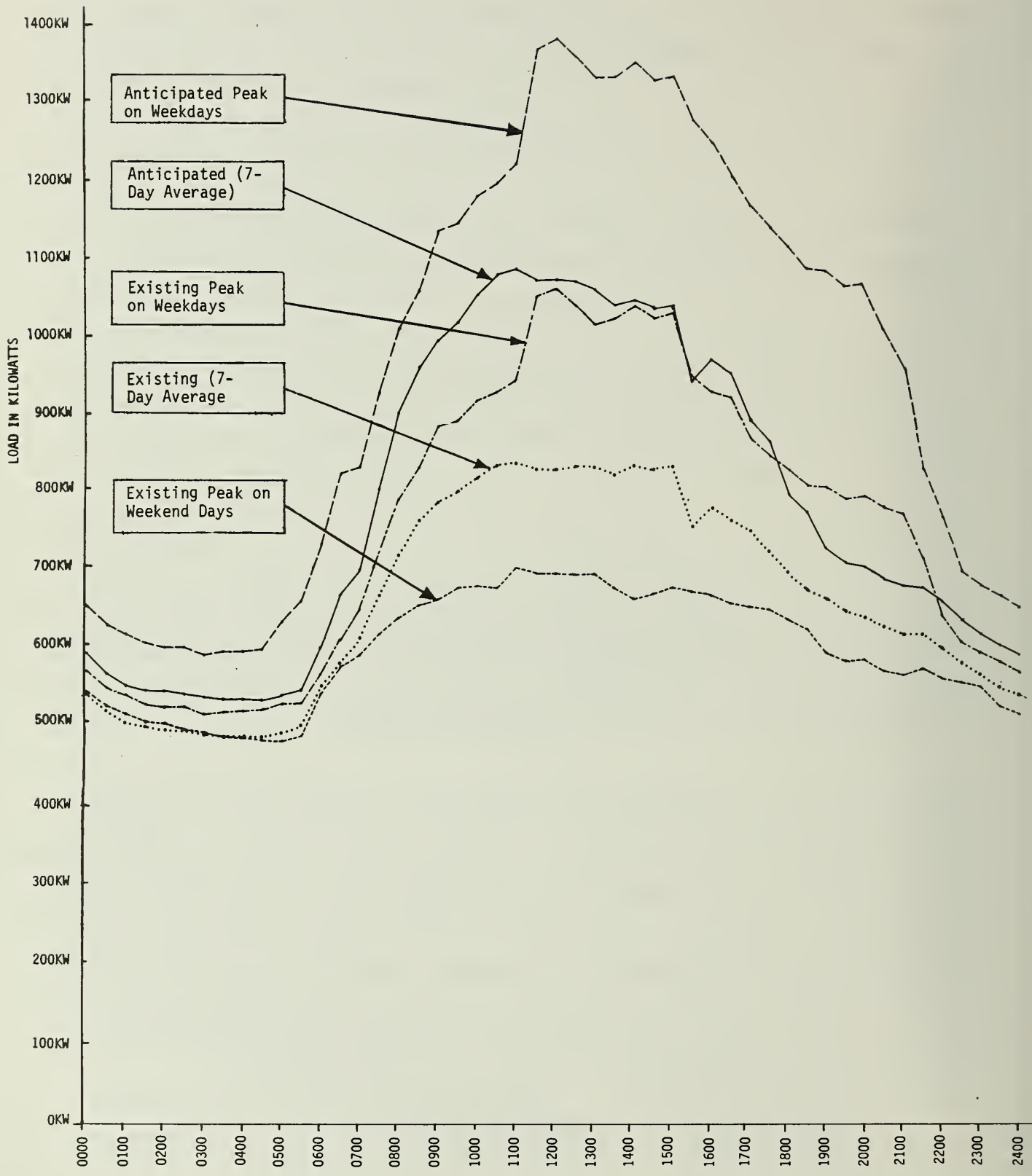

FIGURE 25 EXISTING AND ANTICIPA
DAILY ELECTRIC LOAD
DISTRIBUTION CURVE.

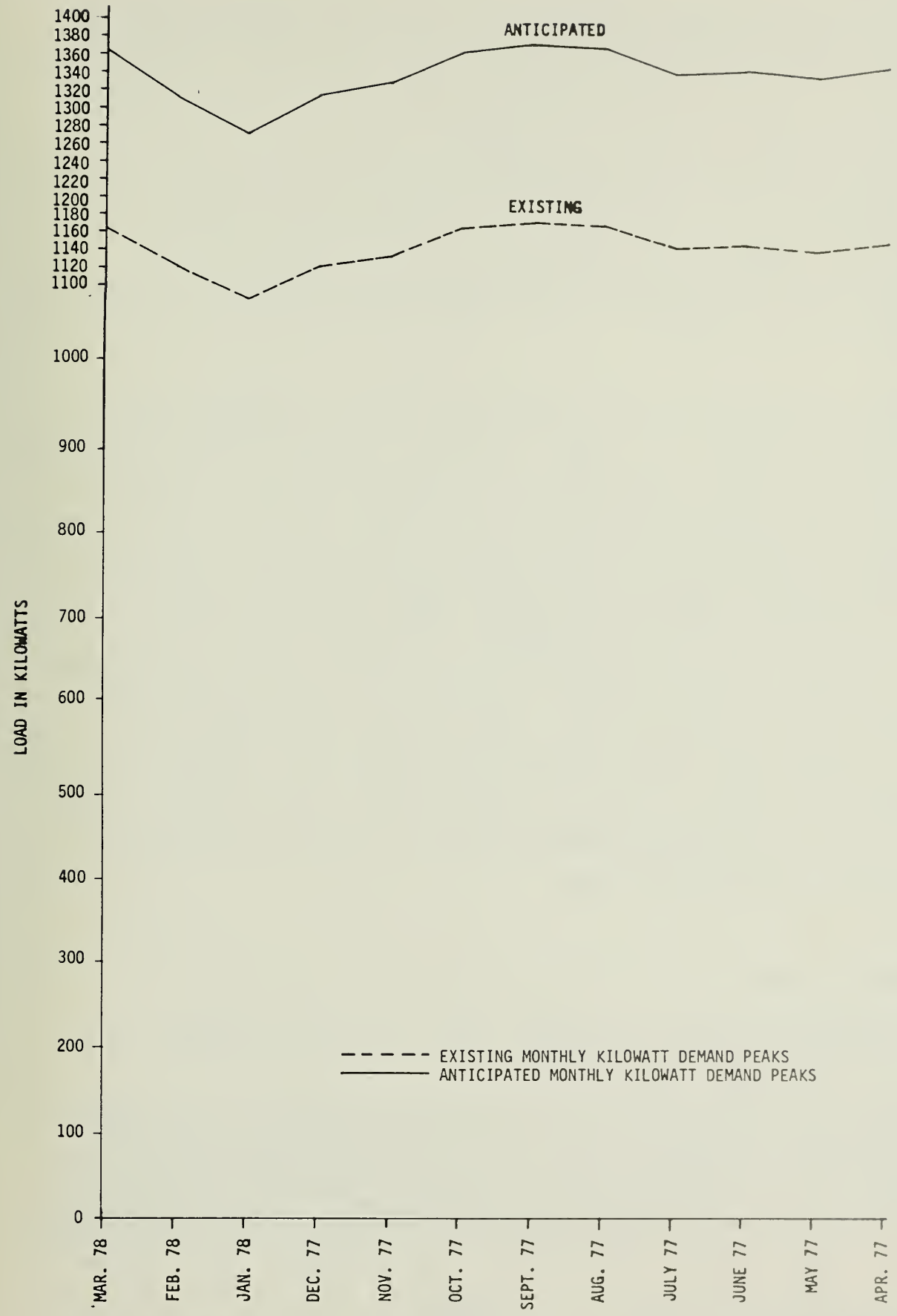

FIGURE 26 EXISTING AND ANTICIPATE ANNUAL ELECTRIC LOAD DISTRIBUTION CURVE.

Peak natural gas usage is expected to be 289 therms (28,900,000 Btu) per hour. Natural gas use would decrease by approximately 11%. Anticipated daily and annual load distribution curves for natural gas are shown in Figure 27.

The project would not change natural gas use sufficiently to require review by the Public Utilities Commission for nonresidential natural gas use in excess of 300,000 cu. ft. per day because the Hospital already holds such a permit./4/ However, in the future an increase in the frequency of interruption in the natural gas supply might require conversion of boilers to diesel, fuel oil or coal.

The existing 5,000 gallon (700 million Btu) diesel oil storage capacity is sufficient to supply oil for about one day under emergency use requirements of 250 gallons per hour. The new generator (600 KVA) proposed to replace the existing small generator would require 60 gallons (7 million Btu) per hour to operate, or 30 gallons (3.5 million Btu) per hour more than the generator to be replaced, with a resultant tripling of power output. The addition of the larger generator to replace the smaller of the two now in service would enable the Hospital to generate nearly all of its electrical needs in an emergency. This would mean the total emergency diesel demand could increase to 280 gallons (39 million Btu) per hour. This increase would decrease the time that the existing 5,000 gallons of emergency fuel would last. However, addition of a 20,000 gallon diesel oil tank to the 5,000 gallon existing tank is under consideration to extend the emergency operation period from 20 hours to approximately 90 hours or 4 days.

FOOTNOTES - Energy

/1/ Estimates by J. Cahill, President, Cahill Construction Company, Inc., letter communication, 14 July 1978.

/2/ The "Btu" figures cited do not include the energy required for generation, transmission, and distribution; "At source Btu" includes the nonrenewable energy resource that must be used to obtain and distribute the energy in the form offered. For example, electricity requires approximately three times its own Btu value of at source nonrenewable energy resources for generation and distribution. Example: 46,500 KWH = 159 million Btu = 476 million at source Btu.

FIGURE 27 EXISTING AND ANTICIPATED DAILY AND ANNUAL LOAD DISTRIBUTION CURVES FOR NATURAL GAS CONSUMPTION

/3/ W. Grube, Professional Associate, and C. Randall, Technical Associate, Ellerbe Architects/Engineers/Planners, letter communication, 19 July 1978 and telephone communication, 9 August 1978. Data and calculations for the natural gas were checked and reworked by ESA. They are on file at the Department of City Planning, Office of Environmental Review.

/4/ M.White, Engineer, Energy Conservation Unit (Gas Branch), California Public Utilities Commission, and W. Terry, Chief Engineer (retired), Children's Hospital, telephone communications, 27 July 1978.

G. GEOLOGY AND HYDROLOGY

The proposed Hospital construction would modify or replace buildings A, B, C and K (see Figure 2, page 10) which do not conform with the lateral force requirements of Title 17, the seismic safety section of the California Administrative Code which governs construction and remodeling of hospitals. The replacement of the existing first, second, third and fourth floors of Building B and the construction of three new structures would conform with Title 17 criteria./1/ The buildings would be expected to survive a major earthquake without collapse. They would be supported on spread-footing foundations/2/ rather than on pilings or caissons./3/

The anticipated intensity of ground shaking during a major earthquake could damage reinforced masonry. Loose panel walls would be thrown out, and objects which are unattached to walls would fall and possibly injure occupants. Water, gas and electric power lines to the hospital could be broken and telephone communications put out of service for some time. Elevators could be made inoperable by loss of power or by damage to elevator shafts.

The Hospital would probably be crowded following a major earthquake. Emergency operations at the Hospital would persist for days, weeks or even months./4/ Aftershocks from a major earthquake could cause additional damage to the Hospital and cause additional injuries from falling glass, masonry and other debris and from panicky occupants rushing to exit.

Excavation would be done in stages over a period of three and one-half years, during which time there would be several two-week periods when actual digging and trucking of earth from the site would occur. An estimated total of about 14,300 cubic yards of earth would be removed from the site, and about 500 cubic yards returned as backfill. The remainder of the excavated earth would be used as fill on other construction sites./3/

FOOTNOTES - Geology and Hydrology

/1/ D. Dobberman, Project Manager, Ellerbe Architects/Engineers/Planners, letter communication, 12 July 1978. The letter is available at the Department of City Planning, Office of environmental Review.

/2/ Spread-footing foundations distribute the weight of a building uniformly to the soil on which it rests.

/3/ J. Cahill, Cahill Construction Company, telephone communication, 20 July 1978.

/4/ Schlocker, J.; M.G. Bonilla, and D.H. Radbruch, 1958, Geology of the San Francisco North Quadrangle, Map I-272, Miscellaneous Geologic Investigations, U.S. Geological Survey, U.S.G.P.O., Washington D.C., Reprinted in 1974.

H. PLANTS AND WILDLIFE

Project construction would involve removal and replacement of the Sacramento St. courtyard including eight poplar trees, 11 Victorian box trees, and other plants. The new plazas above the proposed parking structure, on the first-level rooftop of Building B, and at the main Hospital entrance on California St. would be landscaped with vegetation in pots, tubs or planters. Although plans for this landscaping have not yet been prepared,the plazas would proably attract people for lunch, resulting in an increase in pigeon and rock dove use of the Hospital grounds.

No impact on rare or endanged plants and animals is expected.

I. CULTURAL AND HISTORICAL ASPECTS

The proposed development program would have no anticipated impact on archaeological or cultural resources.

J. COMMUNITY SERVICES AND UTILITIES

Due to the reduced number of hospital beds and the decrease in staff, the project would not be expected to result in any increase in police incidents in the vicinity./1/ Within the Hospital, theft is likely to continue as the most common crime. No change in the internal security and safety force is now planned as part of the project.

Construction materials and interior fire protection in the new and renovated buildings would conform to the requirements of the San Francisco Building Code, the California Administrative Code and the sprinkler and smoke detection requirements of the San Francisco Fire Code. Existing woodframe buildings which could present a fire hazard would be torn down as part of the project./2/

Due to the proposed reduction in staff and number of hospital beds and the proposed elimination of the laundry facilities, the project would be expected to use approximately 32% less water, a reduction of 30,000 gallons per day. However, water would be used to do the Hospital laundry elsewhere, so the overall decrease in water demand would be about 3,000 gallons per day. Approximately 350,000 gallons of water would be used on site for construction during the four-year period./3/ Decreased water consumption due to the elimination of the Hospital laundry facilities, and the reduction of 59 beds and a total of 130 toilets, showers, and wash basins, would result in a reduced discharge to sewers.

No increase in solid waste generation during project operation is anticipated.

IV. ENVIRONMENTAL IMPACTS

During construction, approximately 14,300 cubic yards of soil, mainly sand, would be excavated and exported to disposal sites. The exact locations of the sites are unknown, but they are expected to be private construction sites rather than municipal landfill sites./4/

FOOTNOTES - Community Services and Utilities

/1/ Officer P. Libert, Crime Analysis Unit, San Francisco Police Department, personal communication, 12 July 1978.

/2/ W. Verville, Director of Safety and Security, Children's Hospital, personal communication, 6 July 1978.

/3/ J. Cahill, Cahill Construction Company, telephone communication, 25 July 1978.

/4/ J. Cahill, President, Cahill Construction Co., personal communication, 20 July 1978.

K. ECONOMIC ASPECTS

The principal economic effects of project implementation would be the generation of short-term employment during project construction and a decrease in long-term employment at Children's Hospital resulting from changes in Hospital layout and function.

CONSTRUCTION EMPLOYMENT

The project would create approximately 50 person-years of construction employment in Phase I and 130 person-years in Phases II, III, and IV combined./1/ The overall estimated work effort and payroll for the project is shown in Table 14. The data are based on an assumed average construction salary of $25,000 per year, and an even distribution of construction work within each phase. The total on-site construction payroll for the proposed project would be approximately $4.5 million.

TABLE 14: PROJECTED WORK EFFORT AND PAYROLL FOR PROPOSED CONSTRUCTION AT CHILDREN'S HOSPITAL

		Person-Years	Payroll
1979	Phase I	33	$880,000
	Phase II	2	
1980	Phase I	18	$1,270,000
	Phase II	33	
1981	Phases II, III, IV	38	$950,000
1982	Phases III and IV	56	$1,400,000
	Total	180	$4,500,000

SOURCES: J.E. Cahill, Cahill Construction Company, and D. Dobberman, Project Manager, Ellerbe Architects/Engineers//Planners, personal communications, 28 June 1978; and Children's Hospital of San Francisco and Ellerbe, Architects/Engineers/Planners, 14 June 1978, CU 78.34, Department of City Planning.

OPERATIONS EMPLOYMENT

Upon completion of the project, full-time Hospital employment would decrease by about 40 persons, or 4%./2/ This would result from three changes in Hospital organization: a reduction in patient beds, increased efficiencies in spatial layout and elimination of on-site laundry facilities. Jobs which would be eliminated include the manager and assistant manager of the laundry, linen room supervisors, sorters, a seamstress and a secretary. Other

positions affected would be hospital asttendants working in equipment sterilization and in transporting patients.

All other employment, including the Hospital medical staff and the private physicians and staff in the medical office centers, would be unaffected by the proposed project.

Although there would be an increase in the number of one-bed rooms, the effect would be greater efficiency in the use of bed space and a higher occupancy rate. The cost differential between one-bed and two-bed rooms is 5% of the total daily service rate. The Hospital management believes that the cost differential to the patient would be offset by the overall operational efficiencies and higher bed occupancy.

FISCAL

Revenue from payroll taxes during construction would be approximately $12,000 per year for four years. Project implementation would have no effect on the City's property tax revenue base. All construction, restoration and demolition would occur on tax exempt properties. The nature of the improvements would not affect the tax exempt status of the Hospital buildings and grounds. Similarly, there would be no effect on state and federal income taxes, since the source of taxable income, the office buildings, would not be affected.

The 45 additional off-street parking spaces to be provided by the project would be restricted for use by Hospital personnel. With the addition of this new parking facility, as many as 50 existing restricted spaces in the Hospital's other garages would be opened to the public./3/ An increase of 14% in the public spaces could raise parking lot revenues, resulting in approximately $2,200 per year for the City.

There would be no change in revenue sources for the Hospital or in service programs for low-income residents as a result of the project./4/ New costs to the City for providing services to the site would be minimal.

FOOTNOTES - Economic Aspects

/1/ J. Cahill, President, Cahill Construction Company, personal communication, 28 June 1978.

/2/ W. Baker, Assistant Director of Employee Relations, Children's Hospital of San Francisco, telephone communication, 26 July 1978.

/3/ J. Rock Tonkel, Administrator, Children's Hospital of San Francisco, telephone communication, 24 July 1978.

/4/ Assignment of Community Service Program patients to private rooms is based on patient need rather than income level and ability to pay.

L. THE GROWTH INDUCING IMPACT OF THE PROPOSED PROJECT

Implementation of the proposed project is not anticipated to have any significant short- or long-term effect on population growth or on new commercial activities in the project vicinity. The project would not change diagnostic and treatment facilitites, but would reduce the number of in-patient beds from 382 to 323. Total personnel employed at the site would also be reduced by approximately 40 equivalent full-time positions./1/ The short-term construction jobs generated by the project would most likely be filled by Bay Area residents. Finally, the project would not require provision of new utilities or services, which could support new development, as it is essentially a modernization and replacement program.

FOOTNOTE - The Growth Inducing Impact of the Proposed Project

/1/ Some positions are part-time; when measured in terms of full-time they are equivalent to 40 positions.

V. MITIGATION MEASURES PROPOSED TO MINIMIZE THE SIGNIFICANT EFFECTS OF THE PROJECT

In the course of project planning, design, and coordination, a number of measures have been identified that would reduce or eliminate the potential adverse environmental effects of the proposed project. Most of these measures have been or will be adopted by the project sponsor, Children's Hospital, or their architects, builders, or other contractors. However, a few measures are still under consideration, and some have been rejected. Each measure and its status is discussed below.

Each mitigation measure, the impact each would mitigate, and the status of each with respect to the proposed project are discussed briefly in Table 16. Where a measure has been rejected, the reasons for its rejection are given. Where an action is still under consideration or is suggested, the actions required for implementation are also shown. In most cases, these actions would be optional on the part of the Hospital, its architects, or contractors, unless required by the City as conditions of project approval. For a full discussion of environmental impacts, see Section IV.

TABLE 15: MITIGATION MEASURES PROPOSED TO MINIMIZE THE ADVERSE EFFECTS OF THE PROPOSED PROJECT

	Measures to Be Included in Project	Measures Under Consideration (and Actions for Implementing)	Measures Rejected (and Reasons for Rejection)
Land Use, Zoning, and Community Characteristics	- Placement of the plaza at Sacramento and Cherry Sts. would reduce the height of replacement Building H in relation to Sacramento St. and adjacent private properties. - Location of the main entrance on California St. would retain the traditional entrance street, place the entrance close to MUNI bus stops, and induce less traffic on Cherry St.	- Remove the frame buildings to another site or sites and reconvert interiors for residential use. (Hospital would sell the buildings if there are buyers.)	- Develop a site plan that permits preservation of trees in the Sacramento St. courtyard. (Rejected because the tall poplar trees are subject to falling in strong winds. The landscaping plan to be developed will replace them with more appropriate planting.)
Traffic, Circulation and Parking	- Hospital would support City's implementation of Neighborhood Preferential Parking (see Measures Under Consideration), with request for exemption of curb parking along Hospital frontages. - Hospital would support implementation of the MUNI 5-Year Planning, Operations, and Management Plan for revised routes, which would provide more crosstown routes including one terminating at Children's Hospital which would run via Parker Ave., Stanyan St., 17th and 20th Sts. to Potero Ave. and Army St. (Plan requires approval by Public Utilities Commission and Board of Supervisors before implementation by Muni.) - Proposed new off-street parking structure would reduce on-street parking demand by as many as 64 spaces. (See Sec. IV.B., p. 71) - Free parking for car pools of 3 or more; (Already implemented with approximately 27 cars participating.) - The Hospital would support formation of a subscription bus program (club buses and van pools) with Marshal Hale, U.C. Medical Center, Fireman's Fund, P.M.C., Mt. Zion, St. Mary's, and French Hospitals, and U.S.F. Based on U.C. Medical Center	- Neighborhood Preferential Parking would impose 2-hr. daytime on-street parking limit except for neighborhood residents with stickers on autos; estimated reduction in peak on-street parking demand of 92 spaces. (City Bureau of Traffic Engineering has studied the area and determined that it meets the criteria of the program; may be implemented as early as Spring 1979 after approval by Board of Supervisors.) - Permit flexible work hours, where possible, to allow compatibility with transit schedules. (Hospital would implement.) - Encourage use of safer 3838 California St. garage for the p.m. and night shifts, to better utilize this underground garage. (Children's Hospital has started making this garage available to the late shift on an experimental basis. If successful, this experiment would be expanded and publicized. Hospital would implement.) - Offer parking price modifications designed to maximize garage occupancy. All-day prices must be high enough to leave room for visitor and patient parking. (Hospital would implement.)	- Increase on-street parking supply by providing perpendicular parking on Commonwealth Ave. (Rejected due to opposition by Jordan Park. - Shuttle buses to Golden Gate Bridge. Plaza and other transit links. (The Hospital rejected this measure because of scheduling difficulties, lack of success of similar program at U.C. Medical Center, insufficient demand and transit improvements to result from MUNI P.O.M. Plan.) - Free parking for car pools of two. (Rejected because it would attract ridership from MUNI.) - Spread employee working hours more evenly over 24-hour workday to reduce peak hour parking demand (Rejected because most employees prefer day shift; total auto trips would actually increase due to greater auto use by night shift employees; and peak parking demand would also increase due to greater demand at the 3:00-3:30 p.m. shift overlap.)

TABLE 15: continued

	Measures to Be Included in Project	Measures Under Consideration (and Actions for Implementing)	Measures Rejected (and Reasons for Rejection)
	experience, such a program would have approximately 47 participants and would reduce employee parking demand by about 22 spaces. - The Hospital would support car pooling by publicizing the free parking for car pool program. - The Hospital has hired a transit broker to coordinate consideration and implementation of traffic and parking-reduction measures recommended in Hospital Transit Action Plan (see Measures Under Consideration). - Sell MUNI Fast Passes at Hospital. - Change parking restrictions for better resource utilization. Level one of the Cherry St. garage (entrance off California St.) would be opened to car pools (Hospital would implement.) - Moving the service entrance to Maple St. would reduce internal circulation conflicts between emergency and service vehicles. - Local construction traffic would be limited to the streets immediately fronting the Hospital site. Access would be via California St. (Hospital and construction contractor could implement.) - Provide free parking for staff arriving after 3 p.m. and on weekends in order to reduce early-evening and weekend on-street parking.	- Conduct periodic occupancy checks to update and refine the pricing policy (Hospital would implement.) - Improve garage security by installing closed circuit TV monitoring. (Hospital would implement.) - Install a parking information system to warn patrons when a garage is full and to direct them to alternative available space. (Hospital would implement.) - Install a more visible sign for the 3838 California St. garage. (Hospital would implement with City approval). - Improve bicycle storage security by buying bicycle lockers. (Hospital would implement.) - Eliminate free parking for administrators. (Hospital would implement.) - Allow employee parking only in the lowest levels of the underground garage and the upper levels of the aboveground garage. Use stickers and a slightly lower monthly price to facilitate enforcement. (Hospital would implement.) - Parking for construction workers could be provided by construction contractor to avoid impacting local on-street parking supply. (Hospital and eventual contractor would explore availability of parking at Presidio, local service stations, other local institutions, as consistent with labor union requirements).	- Purchase additional property for off-street parking. (Rejected because it would displace housing and would attract ridership from MUNI.) - Add to the existing parking structure. (Rejected because it would exceed 80 ft. height limit and be higher in cost than the selected alternative.) - Construct an additional parking structure between the existing parking structure and the Medical Office Building at 3905 Sacramento St. (Rejected because it would be less cost effective than the selected alternative and would impinge upon the open space behind the office building.)
Urban Design and Visual Aspects	- The new enlarged entrance courtyard and plaza would increase publicly accessible landscaped areas. - Exterior colors and textures would help visually unify the Hospital by being consistent with existing colors and tones. - Facade design would reflect bay window motif prevalent in the neighborhood. - The large pine tree at the Hospital entrance would be preserved if feasible. - A local landscape architect would be retained to prepare final landscape plans. - Shadows in Sacramento St. would be reduced		- Retain the arched porticos of Building B at the main entrance. (Rejected because the cost of upgrading the building to current building code and seismic safety levels would approach if not exceed the cost of a new replacement structure.)

TABLE 15: continued

	Measures to Be Included in Project	Measures Under Consideration (and Actions for Implementing)	Measures Rejected (and Reasons for Rejection)
Climate and Air Quality	- Air handling unit intake and exhaust vents would be separated by at least 25 ft. (40 ft. where possible). - Exhaust vents would be located downwind of intake, and directed in opposite directions. - Recirculated air would be filtered along with fresh air. - During construction, the site would be watered periodically to minimize dust. The excavation site would also be fenced to help contain dust and protect the public from hazard. - Demolition and outdoor construction activities would be suspended during periods of winds greater than 25 mph (Hospital would require). - Where possible, remodeling areas would be isolated from the rest of the building by use of dust stops, duct caps and similar measures. - Where possible, water-based paints would be used instead of oil-based paints. - Construction equipment would be maintained and operated to minimize exhaust emissions - Portions of the open plaza on the northwest corner of the block would be shielded from the prevailing west wind (Hospital/architect would implement).	- Use of emulsion-type asphalt would reduce hydrocarbons from this source. (Hospital could require contractor to implement.)	- Activated charcoal filters could be installed in the air-handling units to remove gaseous pollutants. (Rejected by project engineer because they would not be cost effective in relation to their function and result. - Install a complete air conditioning system. (Rejected due to energy costs.)
Noise	- Pile drivers would not be used. - Air compressors would be electric-powered and muffled. - Welders would be electric-powered. - Construction traffic would use only main arterials and streets immediately adjacent to the Hospital. - During the admission process, the placement of patients would be based on	- Patients would be moved away from the areas of the buildings facing construction during noisy construction periods (Hospital could accomplish), or a barrier of soundproofing material would be placed so as to interrupt the line-of-sound between noise sources and patients' rooms. (Hospital would require).	

TABLE 15: continued

	Measures to Be Included in Project	Measures Under Consideration (and Actions for Implementing)	Measures Rejected (and Reasons for Rejection)
	the construction noise factor. Ear plugs would be issued to all patients. If an individual patient experiences a problem due to noise, he/she would be transferred to a new location. - The contractor would certify that construction equipment meets State noise specifications (Hospital would require).	- Extra soundproofing material would be incorporated into walls on the street-facing sides of buildings.	
Energy	- Air handling systems would rely upon ambient air for cooling of "noncritical areas," and would take advantage of return air where feasible. - The exterior envelope of the new structures would be insulated to current energy conservation standards to reduce heat loss and heat gain. - Natural gas use would be decreased by 11%.	- Use waste heat from certain equipment and lights for preheating water. (Hospital would require.)	
Geology and Hydrology	- The new buildings and improvements would conform with current seismic design standards intended to insure resistance to major earthquakes without collapse; resistance to moderate earthquakes without structural damage; and resistance to minor earthquakes without nonstructural or other damage to the buildings. - During construction, bulkheads on the excavation pit walls would prevent collapse.		- Trucks transporting excavation materials from the site would have their tires swept clean of mud, and the earth materials in the bed of the truck would be covered, or wetted to prevent spillage (Rejected because the construction consultant considers ordinary cleanup procedures at the project site to be sufficient.)
Cultural and Historic Aspects	- Should evidence of cultural or historic artifacts of significance be uncovered at the site during construction, activities would be suspended for a reasonably limited period until a qualified archaeologist or historian could determine the significance of the evidence and recommend appropriate measures to preserve or recover such artifacts.		

TABLE 15: continued

	Measures to Be Included in Project	Measures Under Consideration (and Actions for Implementing)	Measures Rejected (and Reasons for Rejection)
Community Services and Utilities			
- Security	- Fire alarm locks would be placed on emergency exit doors not also used as entrances in new and renovated buildings. - A closed circuit TV system would be used by security personnel to monitor entrances, exits and key areas. - Conversion from a hospital grand master key to a departmental key system is being implemented over several years. The new building would have a departmental key system to help reduce theft.	- Require visitors to the new building to sign in at the entrance. (Hospital would require.)	
- Fire	- The San Francisco Fire Code requires a wet standpipe system and a dry standpipe system in the new and renovated buildings. - The California Administrative Code requires a sprinkler system, in specific areas, and a fire alarm system and smoke dampers in new and renovated buildings. All replacement buildings will be totally sprinklered. An updated coded fire alarm system to meet State and local agency requirements would be provided.		
- Water	- A drip irrigation system would be used for the irrigation of new landscaping. - Low-flow plumbing fixtures would be installed to conserve water.		
- Sewer	- The sewer connection for the new building would be located at the lowest elevation of the area to be serviced to reduce the possibility of flooding. - The sewer connection for the new building would be located at the lowest elevation of the area to be serviced to reduce the possibility of flooding.		
Economic Aspects	- Equal employment opportunity and affirmative action programs of the Hospital would continue and the equal employment opportunity program of the Hospital would be extended to employees of contractors and subcontractors.		

VI. SIGNIFICANT ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED IF THE PROPOSED PROJECT IS IMPLEMENTED

Project construction and demolition activities would generate dust, noise, and traffic disruption in the vicinity of the project site. Construction noise and dust would affect local residents and businesses, as well as Hospital patients and employees. Parking requirements of project construction workers would create a demand for up to 50 additional local parking spaces during peak construction activity.

The project would require removal of the existing Sacramento St. courtyard which has eight mature poplar trees, 11 Victorian box trees, and other plants and would replant the open space at sidewalk level. Two of the older brick Hospital buildings would be removed or altered substantially to meet current seismic design standards. New construction would increase building heights and bulks along the Cherry St. and westernmost California St. frontages and reduce them along the westernmost portion of the Sacramento St. frontage and in the mid-block portion of the California St. frontage. The woodframe residential structures in the northwest corner of the site would be removed and replaced by a parking structure with a rooftop plaza at sidewalk level. As a result, lengths of shadows cast onto Sacramento St. would be reduced. During morning hours throughout the year, Building H would produce longer shadows on Cherry St. than those now produced.

Elimination of the Hospital laundry, reduction in the number of beds, and improvements in operational efficiency would reduce Hospital employment by approximately 40 equivalent full-time positions.

Project construction would result in on-site consumption of approximately 46,500 kilowatt hours of electricity, 8,100 gallons of diesel fuel, and 9,000 gallons of gasoline during the four-year construction period. After completion of the project, the annual electrical power consumption of the Hospital would increases from 6.1 million KWH to 10 million KWH. Annual natural gas consumption would be reduced from 904,500 to 819,000 therms per year.

VII. ALTERNATIVES TO THE PROPOSED PROJECT

The nature and objectives of the proposed project are limited to replacement and rehabilitation of existing Hospital facilities. For this reason, alternatives which contemplate remote sites, or drastic alterations of Hospital size and function, although considered in studies made since 1973, have not been developed to the same degree as the proposed project.

ALTERNATIVE 1 - NO PROJECT

The "no project" alternative would, in effect, continue the present operations of the Hospital unchanged, and would become progressively more impracticable as present facilities become more obsolete and Hospital design standards become more stringent. Obsolete facilities have a direct impact on operating, maintenance and repair expenses, raising them continuously. This alternative would not enable the Hospital to effect the operating efficiencies which the replacement program would provide, such as a reduction in total number of employees, centralization of the storage, processing, and distribution of supplies, and the centralization of administrative functions which would reduce clerical support time. This alternative would also result in the Hospital continuing in nonconformance with the current seismic design requirements of Title 17 of the California Administrative Code, resulting in a lower level of patient safety than that provided by the proposed project.

ALTERNATIVE 2 - MASTER PLANNING STUDY PROGRAM

A planning study prepared for the Hospital in 1976/1/ recommended a program that would have increased the overall floor area of the Hospital by 140,000 sq. ft., total number of beds by 23, total number of Hospital employees by approximately 14, and which would have provided no new off-street parking. This alternative was rejected by the Hospital, as in excess of its needs and in conflict with its objectives for optimal efficiency of operation and bed occupancy.

The environmental effects of Alternative 2 would, in general, be greater than those of either the proposed project or Alternative 1:

- Increases in construction noise, dust, traffic, parking demand by construction workers, and disruption of local circulation and hospital activities for a longer or more intense period;

- Increased demand for on-street parking from the lack of additional off-street parking and the increased number of beds and employees;

- Greater heights, bulks, and site coverage of Hospital buildings, and a reduced area of the site available for plazas and landscaping, from increased floor area;

- Increased ambient noise, increased requirements for public services and utilities, and reduced ambient air quality from increases in traffic.

ALTERNATIVE 3 - NEW HOSPITAL ON ANOTHER SITE

This alternative was not considered favorably by the Hospital administration because it would reduce effective service to the Hospital's existing patient community; would result in a physical separation of the Hospital from other facilities, including the Medical Office Building and would be inconvenient for all users; and would be economically infeasible. This alternative would

be least effective in preserving the investment of $40 million which the present facility represents; replacement of the present facility as a whole would cost at least $75 million. Operating costs would increase because of necessary duplication of equipment, personnel, and services. In addition, the vacated old buildings would be a financial burden to Children's Hospital until the sites could be sold for residential development.

FOOTNOTES - Alternatives to the Proposed Project

/1/ Anshen & Allen, Architects, September 1976, Children's Hospital of San Francisco Space Program.

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